Trait Emotional Intelligence: Evaluating the theoretical construct, its relationship to other psychological variables, and potential interventions to enhance it.

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This work or any part thereof has not previously been presented in any form to the University or to any other body whether for the purposes of assessment, publication or for any other purpose (unless otherwise indicated). Save for any express acknowledgments, references and/or bibliographies cited in the work, I confirm that the intellectual content of the work is the result of my own efforts and of no other person.

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Abstract

Research suggests that there are now two distinct approaches to Emotional Intelligence (EI): ability and trait. To date, however, the literature indicates that the construct remains poorly defined and not always adequately measured. Focusing on trait EI, the current thesis identifies a number of research questions that centre on what it is that defines EI in relation to existing definitions and other constructs, namely, happiness, self-esteem, mood and personality. Moreover, a programme of empirical study investigates whether a training intervention can enhance levels of EI and thus contribute to the emerging applied field of enquiry. This has been achieved through the employment of a series of studies. The initial study used the Repertory Grid Technique (RGT) and Principal Component Analysis (PCA) to generate a definition of EI, which directed this thesis towards alignment with the trait approach. The second study aimed to identify correlations and explore possible predictor variables through the application of Pearson's r and Hierarchical Regression analysis. Moreover, a Mediation and Moderation analysis investigated whether EI has a mediating or moderating role when combined with other predictors. Two further experimental studies examined whether EI could be experimentally enhanced through a programme of relaxation and positive thinking when compared with a control group engaged in a non-demanding reading task.

The results of the first study produced a definition of EI that included descriptions of work-related qualities with the second study yielding results of high correlations between EI, happiness and self-esteem, which were also identified as predictor variables. EI was found to act as a mediator and moderator. Analysis of Variance generated results for the first experimental study that showed overall non-significant interactions. To investigate beyond these findings, the second programme showed that the training programme induced positive changes. It was concluded that, overall, the results contribute to a definition beyond existing definitions of EI, demonstrating EI's strong associations particularly with happiness, self-esteem and, its mediating and moderating role with other predictors. Primarily, the results from the second experimental study demonstrate the potential of EI in the applied field, including education, work and health.

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Table of Contents

List of Appendices

Lists of Figures

List of Tables

Chapter 1 – Overview of the Research Study

1.0 Introduction

This overview offers an introduction to the research study. EI has received much attention since the early 1990's when it was acclaimed as a construct that moderates intelligent behaviour through the influence on individual reaction and interpretation of information (Salovey & Mayer, 1990). The interaction between emotion and intelligence had been the subject of theories of social and personal intelligence (Gardner, 1983; Thorndike 1920). These theories have been influential in the development of EI because they reflected the tension between emotion and reason that dates back to ancient Greece. Following a number of attempts to identify what EI consists of, the first theorists to draw attention to EI as a valid concept were Salovey and Mayer (1990) who proposed a hierarchical psychometric model of intelligence for the ability to use and manage emotion, insisting that EI qualifies as a form of intelligence that will broaden the conceptualisation of traditional views of intelligence. Moreover, they argued that this form of intelligence can be learned and taught and may account for individual differences in personal and professional success and well-being.

Initially, their efforts were met with limited interest in academic as well as popular literature until Goleman's (1995) publication generated immense interest in the subject area and there followed a plethora of alternative theories accompanied by measuring tools that were often not subjected to sufficiently thorough empirical analyses (Murphy, 2006). Exaggerated claims as to EI's relevance to personal and occupational success increased skepticism towards the concept particularly in academic literature (Matthews, Roberts, & Zeidner, 2004). Questions were

being asked about the face validity of EI (Matthews et al., 2006) because emotions had traditionally been likened to irrational thought processes (Damasio, 1994) or even disruptive mental activities that were difficult to measure objectively particularly if measured within an IQ framework (Sternberg, 2004).

Though measurement concerns continued to be debated, two sets of publications contributed to bringing EI back to the realm of academic rigour. Salovey and Mayer (1997) re-examined their EI model, which initially included ability and other characteristics like warmth and motivation, thus mixing traits or personality outcomes with cognitive abilities. Their more current model defines the construct more clearly in terms of cognitive abilities and, therefore, as an intelligence of emotion. The other set of publications questioned the conception of ability EI and suggested that EI is a trait (Petrides & Furnham, 2000), which is conceptualised as encompassing behavioural dispositions and self-perceived abilities. Once popular use of EI was separated from academic literature, both approaches consistently and effectively contributed to the emergence of EI as a credible research field, although theory development has been slow and the development of EI as a construct remains at a rudimentary level much in need of further investigation.

The literature reviewed for this research study suggests that research devoted to EI now represents the two distinct perspectives. Both share the idea that cognitive abilities can no longer be considered as the sole predictors of successful adaptation and that emotional competencies also have to be considered. They differ, however, with respect to their conceptualisation of emotional competencies and their measurements (Mikolajczak, Luminet & Menil, 2006). On the one hand, EI is conceived of as an ability (Mayer & Salovey, 1997)

and assessed via intelligence-like tests; on the other hand, EI represents emotion-related behavioural dispositions evaluated via personality-like tests (Petrides & Furnham, 2001). The former aims to capture maximal performance, the latter typical performance. Whilst it seems unlikely that cognitive abilities measured by conventional IQ tests capture every facet of human intelligence (Sternberg, 2000) it is recognised that EI, like the Rorschach Test (1921) may well prove to be too elusive to be supported by empirical evidence. Nevertheless, it can be speculated that research in EI may contribute at the very least to a greater understanding of emotions and adds much to the understanding of individual differences. As Flynn (2007) commented when interviewed about the latest thinking on intelligence, EI should not be ignored, it is trivial whether it measures some kind of intelligence or not.

1.1 General Aim of this Research

At the core of the debate has been the aim to develop a valid and reliable test so as to operationalise EI against a background of conflicting theoretical claims that are descriptions rather than observations of behaviour. It is acknowledged that there is a lack of theory driven research about EI (Matthews, Zeidner & Roberts, 2012), which may simply be due to EI being a relatively new area and a general pre-occupation with assessment in the scientific community. Intelligence research itself is a very good example of the approach where assessment and testing has influenced theory development and EI research may well follow suit. There are a number of tests that claim to measure EI (Bar On, 1997; Mayer & Salovey, 2004; Petrides & Furnham, 2001), but further research is needed to demonstrate that the qualities that are measured may be described as being part of EI. Therefore, the main purpose of this research is to contribute to the investigations of those

qualities, in the first instance by exploring definitions of EI and by also identifying which theoretical base and subsequent measure should be adopted for this research. Acknowledging the critical valuations of EI, it is then assumed to be a valid construct and therefore the relationship between EI and the associated constructs of happiness, self-esteem, mood and personality are explored in an attempt to demonstrate what constitutes EI and how it relates to other constructs.

Moreover, this research aims to explore the practical value of EI by asking whether a training intervention can enhance levels of EI and thus contribute to the emerging field of application. There has been a noticeable disconnection between EI theory and practice (Matthews, Roberts, & Zeidner, 2006) and programmes designed to improve social and emotional competence are not always based on an emerging science of EI. Programmes designed to improve the effectiveness of EI have mushroomed and some have been successful (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011) in education as part of social educational learning (SEL) programmes.

Attempts in the occupational and health setting have been less credible with regard to theory and methodology, often employing an assortment of techniques that lack clear psychological bases. It is with reference to these concerns that the practical value of EI is being explored, as noted so aptly by Matthews et al., (2012); “it would appear rash at present to dismiss the potential value and importance of the attempts to train EI in various applied settings, despite some of the failings of current work” (p.190). Based on the previous studies briefly summarised above and further outlined in the literature review, the overall research question focuses on, firstly, what it is that defines EI in relation to existing definitions and to other constructs of, happiness, self-esteem, mood and

personality. Secondly, accepting that EI is a valid construct worthy of further investigation, the question is asked whether a training intervention can enhance the levels of EI and therefore contribute to the emerging applied field. This will be achieved through the employment of a range of methodologies, briefly introduced as part of the overall study summary presented next. Thus, the aim is to provide a brief synopsis in the form of its individual chapters.

1.2 Chapters Summary

1.2.1 Chapter Two

Following the synopsis of this research study, chapter two reviews the literature on the development of EI by including historical influences and reflections on the debate about the tension between emotion and reason which date back to ancient Greek philosophy. To ascertain the influences that shaped EI, the two theories of emotion and intelligence are discussed and the remaining constructs pertaining to this study, namely, happiness, self-esteem, mood and personality, are outlined.

1.2.2 Chapter Three

The third chapter examines the search for a definition; the aim of this part of the study was to collect data for the exploration of the subjective understanding of the construct of EI with a view to constructing a definition. The attempt was made in this first investigation to employ a method which allowed for the mixing of qualitative and quantitative research techniques. Thus, the Repertory Grid (RepGrid) technique was chosen because the ranked data allowed for the employment of Principal Component Analysis (PCA). The results were analysed

with reference particularly to existing definitions of the trait and ability EI approach and their similarities to this study. The definition generated influenced the trait orientation of this study and identified a number of work related terms hitherto not part of EI descriptors.

1.2.3 Chapter Four

Chapter Four focuses on the second investigation, which explored the relationship between EI, happiness, self-esteem, mood and personality, in order to determine what EI consists of. In the first instance the correlational analysis indicated high correlations between EI, happiness and self-esteem and lower correlations with mood and personality. The subsequent hierarchical regression, which investigated the collective and individual effect of predictor variables on EI scores, identified happiness and self-esteem as the strongest predictors. A moderator and mediator analysis identified EI as having a moderating and mediating effect on happiness and global self-esteem. These results led to the decision to explore whether similar results could be generated in the applied field.

1.2.4 Chapter Five

The purpose of Chapter Five and the third investigation was to investigate further the relationship between EI, happiness, self-esteem, personality and mood, and to explore EI's potential in an applied setting to establish whether it can be enhanced through applied and targeted training. To this end a number of experimental studies were designed in order to manipulate a series of dependent variables and thus induce positive change. The first intervention applied progressive relaxation as a means of operationalising criteria that measured pre- and post-scores; the second intervention applied a programme of positive

thinking and the control group required participants to perform a non-demanding reading task. Overall, the results showed that there were no significant changes as a result of the experimental intervention.

The analysis of the results of the first intervention study informed the subsequent investigation and comprised an extension of the positive thinking programme and a control group. The decision to extend this programme was the result of a number of considerations as to why no change had been generated previously. One of these considerations concerned the timing of the intervention; thus, the subsequent longer intervention time, utilising fewer variables led to an overall positive change in the enhancement of EI.

1.2.5 Chapter Six

Chapter Six presents the overall summary and conclusions and suggestions for future studies. The overall conclusion is that there continue to exist two EIs representing intelligence, on the one hand, and facets of personality, on the other. It is recognised that both schools of thought have offered credible evidence in favour of EI. The results of this study add a dimension of work-related terms to the definition of EI, identifies EI as a moderator and mediator, shows an enhancement of EI levels in one of the experimental studies and argues for the continuation of EI research, supported by a number of suggestions for future studies.

1.3 Summary of Overview

The aim of this overview is to offer a general introduction to this study and to define the overall aims and objectives. Following the literature review, this research study applied a correlational design and utilised an experimental condition in one of its study designs. The synthesis of data from each study informed which personal characteristics should be central to the activities during the subsequent phase. The first study applied the RepGrid and PCA to explore individuals' personal constructions of EI so as to construct a definition of EI. Study two used correlational analyses to identify a cluster of psychological variables associated with each other and related to EI and utilised multiple regression to identify predictor variables and moderator and mediator analysis to investigate whether EI has a biasing or synergistic relationship when combined with other predictors. Using an experimental intervention approach, the purpose of the third study was to manipulate a series of dependent variables and thus induce positive change. The interventions included a control group and two experimental groups, progressive relaxation and happiness through positive thinking. Following the analysis of results, the happiness through positive thinking experiment, which also included a control group, was extended from three to six sessions with a greatly reduced number of participants changing its focus to include well-being. Throughout, considerable care was taken to employ robust, rational and rigorous testing methods in view of the range of former EI studies that lacked experimental rigour.

Chapter 2 - Literature Review

2.0 Introduction

This chapter reviews the relevant literature pertaining to the study. The origins and development of EI are discussed, as well as its impact as a relatively new construct which has now become one of the most talked-about aspects of intelligence. Broadly defined, it represents a set of core competencies for identifying, processing and managing emotions (Matthews et al., 2007). The study of EI provides a new framework by which to explore tensions between emotions and reason; a debate which goes as far back as the ancient Greeks. Therefore, this review follows a line of investigation from classic philosophical thinking to modern neuroscience, presenting theories of emotion and intelligence, before enquiring more deeply into EI's evolution. This search for clarification includes an analysis of EI measures as applied in academic research, in order to emphasise how measurements influenced the construction of EI in the first instance, and as a tentative exploration to identify a suitable test measure for this study. The review proceeds by introducing the associated constructs relevant to this research: happiness, self-esteem, mood and personality.

2.1 The Development of EI

2.1.1 The Background of EI: A Historical Perspective

The interaction of emotion and reason has been one of the most intriguing debates throughout recorded history, with reasoning being viewed by most great thinkers as superior to emotion. The Stoics believed logic to be superior to

feelings, after all, rational thinking and arguments could be agreed upon among scholars, whereas feelings could not. Whilst the Stoics were concerned with the role of emotion in leading a good life, moods, desires and fears were viewed as being too self-centred and individualistic to be reliable; to be wise meant that emotions and feelings were not to be admitted (Pickave & Shapiro, 2012).

Influences of Stoic philosophy can be found in both Jewish thought and early Christianity; it has continued to be part of the emerging Christian religion contributing to a strong anti-emotional Western thinking. As Payne (1986) observes, “Stoicism … evolved moral and social conceptions that have become an heirloom of western civilisation, and are embedded in the inmost structure of the Christian state” (Payne, 1986, p.15). Although Stoic philosophy strongly influenced western thought, the idea that rationality was superior to emotionality was not accepted by everybody. Rabbi Israel ben Eliezer, the founder of the Hassidic movement during the mid-eighteenth century, introduced emotionality and mysticism to the Jewish tradition. Later that century, European Romanticists argued that truth might play a part in feelings and intuition and as such, feelings were truer than reason (Reddy, 2001).

This wave of emotional rebellion against the rigidity of rational thought by artists, writers and musicians led to the argument that empathy and emotions could provide insights which were not obtainable through logic. However, the emotionality also expressed feelings of alienation, and was documented in artists’ poetry, prose and drama. Upshur, Holoka, Goff, Cassar, & Lowry (1995) interpret this as a response to the emerging industrialisation of society.

The tension between exclusively cognitive views and broader ones that include emotions has continually influenced the study of emotions and intelligence. Very early comments about what constitutes intelligence also came from the field of philosophy. Plato (1992), the ancient Greek philosopher likened people's intelligence to blocks of wax suggesting that a person who had overly hard, soft, muddy or impure wax would be intellectually deficient. He viewed emotions as detracting from human reason and in 1933, Solomon suggested that Plato had placed emotions somewhere between spirit and appetite as part of a tripartite soul which embraced reason, spirit and appetite.

Sternberg (1990) offers contributions from Thomas Aquinas (1225-1274/1998) and Immanuel Kant (1724-1804/ 2004); the former philosopher argued during the thirteenth century that intelligent people had superior, nearly complete and universal comprehensive skills, although he acknowledged that even the most intelligent person could not reach the same level as god. The latter argued during the eighteenth century that there were various facets of intelligence and that people differed in terms of the level to which they possessed them. These and other ideas of early philosophical explorations of intelligence influenced the research to come. Much of what is now known about intelligence emerged during the late nineteenth century with the twentieth century witnessing an explosion of intelligence research.

Following the very early ideas and prior to advances in empirical research, sophisticated theories about emotions can be found in key literature. For example, in the works of Descartes (1596-1650/1985), rationality required emotional input and he suggested the 'somatic marker hypothesis', a proposed mechanism by which emotions guide, influence or bias behaviour and decision

making. Damasio (1994) argues that there was a flaw in Descartes' thinking, arguing that emotion and reason are not separate but in fact dependent on each other. Based upon an examination of physiological processes that contribute to the functioning of the mind, Damasio suggests that the famous phrase 'I think, therefore I am' becomes 'I am, therefore I am', changing the emphasis from dualism, the principle of the body-mind. Damasio argues that Descartes' 'error' was the dualist separation of mind and body, rationality and emotion, with our body and emotions having a key role in the way we think and in rational decision-making.

Darwin (1872) also had an important influence on the understanding of emotions together with a number of other early theories (e.g. Duffy, 1941; James, 1884; McDougall, 1910; Papez, 1937) varying from basic biological considerations to attempts to distinguish emotions and feelings. Whilst more details about emotion and intelligence are presented later in this chapter, suffice to mention, early theorists of emotion had started to consider the origins and development of emotions and thus to debate the distinction between emotion and non-emotion. It is worth noting that in presenting the dichotomy of emotion and reason they laid the foundation for investigating where emotion may be sited physiologically, the point that ingenious studies like Damasio's (1994) and advances in the tools used to study the brain, like MRI, began to generate accurate evidence which cast doubt over the traditional paradigm.

Nonetheless, the philosophical explorations of the human intellect and the origins of emotions foreshadowed the explosion of research that occurred during the twentieth century. The 1960s emerged as the decade of emotional rebellion against the exclusivity of rational thinking. Humanistic psychology, represented by

the works of Allport (1961), Maslow (1962), and Rogers (1962), suggested that one urgent need is to feel good about oneself, to experience one's emotions directly and to grow emotionally. Mowrer (1960) concluded that emotions should not be placed in a position with intelligence because they seem themselves to represent a high order of intelligence. With this in mind, a number of emotion and intelligence theories are explored below to ascertain their influences on the development of the EI construct.

2.1.2 Influences from Theories of Emotion

The term emotion has no single definition that is universally agreed upon. Rather, deriving from the Latin root word *–emovere,* which translates as to move, excite or agitate, its contemporary definition refers more to a number of subjectively experienced affect-laden states (Oatley & Jenkins, 1992). These experiences refer to, among others, love, fear, hate or terror, and within the area of scientific research, it refers to a label generally used to describe those investigations that explore the physiological, environmental and cognitive factors underlying subjective experiences.

The purpose here is not to present an exhaustive discussion of specific theories of emotion, but to describe the major theoretical contributions, in order to highlight common themes and to add to the general understanding of EI. For example, modern phenomenological psychology built upon early European philosophical thinking which, as conceptualised by Husserl (1913), suggested that thoughts and feelings have a purpose; they are intentional and each individual perceives the world as unique. Although phenomenological theories of emotion (e.g. Buytedjk, 1950; Epstein, 1993; Hillman, 1960) are subjective and difficult to test,

they attempt to explicate the experiential side of emotion and efforts have been made to test phenomenological theories (Denzig, 1984). In direct contrast, behavioural theory (e.g. Amsel, 1962; Hammond, 1970) embraces testable predictions and causes, in the absence of links between the biological and the sociocultural. One probable exception to this was Gray's (1987) work, which analysed emotion by way of innate fears and early conditioning and recognised the relationship between intense emotional states and external events.

Since James (1884) and the aforementioned philosophers, there have been many theories of physiology and its role in explaining emotions. Whilst some earlier theories have become inadequate, these remain influential, with some later theories like Plutchik's (1993) three-dimensional model of emotion contributing to the understanding of emotion. Similarly, Panksepp (1998) offers empirical and theoretical evidence to further understanding of emotion, while Scherer (1993) presents a theory that is broader than a physiological theory by aligning himself with approaches adopted by neuroscientists.

The cognitive approach probably represents the largest number of theories of emotion, ranging from relatively simple ones (e.g. Bull, 1951; Siminov, 1970) to decidedly complex ones. To mention a number of examples relevant to the exploration of EI, Lazarus (1968) posited that emotions must have intentionality and involve cognitive appraisal, physiological changes and action. Central to this debate is whether the systems of cognition and emotion are separate or independent. Whilst Lazarus (1984) argues that the cognitive process of detecting or determining affect takes place before any elicitation of emotion, Zajonc (1984) argues that cognition does not precede emotion. They are independent with emotions preceding cognition and include the exposure effect

when people like something when they have seen it before. Lazarus (1991) however posits that each emotion arises from a different story about relationships between a person and the environment. This theory suggested that emotions must have intentionality and involve cognitive appraisal, physiological changes and actions.

Of equal relevance is the conflict theory proposed by Oatley and Johnson-Laird (1996). Their theory is largely based on the idea of goals and plans; emotions are viewed as serving important cognitive functions with the mind developing so that it is aware of itself. In addition, there are more ambitious theories that have a strong cognitive component and stress appraisal. For example, Frijda (1993) proposes that there are a number of appraisals, primary ones concerned with judging emotional meaning, and secondary ones concerned with the evaluation of the resulting emotion. Taken together, such theories of emotion offer the first parameters in relation to what EI may represent; as leading researchers in the field have aptly stated, “definitions of emotional intelligence should in some way connect emotions with intelligence if the meaning of the two terms are to be preserved” (Mayer & Salovey, 1997, p. 4).

2.1.3 Influences from Theories of Intelligence

Whilst this basic consideration of emotion theories is essential for a general understanding of EI, the study of intelligence plays a far greater role in forming and developing EI as a construct. Deriving from the Latin verb ‘intellegere’, the term intelligence has been defined in many ways, and as noted above, early philosophers were the first to explore the nature of intelligence. In searching for a definition, Sternberg (1990) insightfully observed, “there may be as many different

definitions of intelligence as there are people who are asked to define it" (p. 33). Whilst the depth of intelligence research is recognised, it is sufficient to outline here those EI studies which have been most influential and most instrumental in its emergence. The summary presented therefore aims to reflect existing theory and the increasing knowledge of psychometric testing.

One of the first theorists to recognise the existence of different intelligences was Thorndike (1905). His theory of social intelligence focuses less on behaviour itself and more on the effect it is designed to produce. This 'law of effect' forms an important part of the social intelligence perspective, although the initial momentum came from Dewey (1909) who introduced the concept and initial definition of Social Intelligence.

Thorndike (1920) outlined three models of intelligence: Abstract, Mechanical and Social, defining social Intelligence as "the ability to manage and understand men and women, boys and girls, to act wisely in human relations" (p.228). Equally relevant is Binet's (1916) view that the core of intelligence is judgement, also known as good and practical sense, initiative and the ability to adapt to circumstances. A set of simple exercises, termed mental orthopedics, were likened to physical orthopedics: "just as physical orthopedics correct a curvature of the thoracic spine, mental orthopedics straighten, cultivate, fortify such mental abilities as attention, memory, perception, judgement, the will" (Binet, 1975, p.111).

Wechsler (1944) who directly influenced the development of performance EI was in turn strongly influenced by Thorndike. He defined intelligence as "the aggregate or global capacity of the individual to act purposefully, to think

rationally and to deal effectively with his environment" (Wechsler, 1944, p.3). When describing the influences of non-intellective factors on intelligent behaviour, Wechsler argued that models of intelligence could not be complete until these factors were adequately articulated.

A major contributor to testing, each of the Wechsler scales (WISC- and WAIS) are currently used extensively, although, along with the Raven Progressive Matrices (Raven, Raven, & Court, 1993) and other IQ measures, questions are being asked about massive IQ gains from one generation to the next; a debate commonly referred to as 'The Flynn Effect' (Flynn, 2007). Humphreys (1979) suggested that the term intellectual could only be defined by a consensus of experts, and this is a notion that has re-emerged within the contemporary intelligence landscape, as part of the debate about psychometric properties of EI testing (Matthews et al., 2012). Intelligence is viewed as a consequence of applying the information and conceptual skills in a new context, gained through the processes that involve acquiring, storing in memory, retrieving, combining, and comparing.

It was, however, Gardner (1983), who, along with Thorndike (1920) formally established the idea of EI. Strongly informed by a cognitive-science model of the mind, Gardner contributed to the debate by developing his theory of multiple intelligences. He chose not to recognise intelligence as a single entity but rather as a system of independent intelligences; these included interpersonal and intra-personal intelligence. The former refers to the examination and understanding of the feelings of others and facilitation of action based on others' feelings, and the latter to the examination, understanding and representation of one's own feelings.

Arguably, the growth in intelligence research towards the latter end of the twentieth century created a source of confusion, if not conflict (Sternberg, 1985). This resulted in a triarchic theory of intelligence being proposed by Sternberg (1988) as a unifying framework to encompass competing theories and demonstrate the corresponding nature of intelligence theories. The theory divided intelligence into three domains of information processing; firstly, mental processes internal to the individual, secondly, the application of internal mental processes in interactions with the environment and, thirdly, the procurement of experiences that mediate between internal mental states and external displays of mental functions. Particularly relevant here is that these domains of intelligence can adapt to life-experiences, and that this skill is an important capacity provided by intelligence. Essentially, Sternberg (1985) suggests that this adaptive function is a means by which intelligence assists mental self-management and thus provides the ability to adapt and manipulate one's interaction with the environment; an ability not usually measured by traditional tests of intelligence.

No summary of intelligence research in relation to the development of EI would be complete without mentioning Feuerstein's (1990) basic premise, that intelligence is modifiable. Although marginally outside the scope of this study, the theory of structural cognitive modifiability, which concerns the successful adaptation to the changing demands of a life situation, is worth noting, because the theory relies entirely on the application of a person's unique ability to learn, a notion popular with researchers in the applied field of EI (Nelis, 2007; Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009).

There are other theorists who influenced the formation of an early EI theory; for example, Mayer et al., (2001) credited the emergence of cognition and affect

research in the late 1970s at least partly to the preliminary development of the EI construct (e.g. Ajzen & Fishbein, 1974; Dalgleish & Power, 1999), whilst acknowledging the persuasive influences of Thorndike (1920), Wechsler (1944), Gardner (1983) and Sternberg (1985). Finally, in 1990, Salovey and Mayer originated the term EI within the academic literature in the United States. While their model is reconsidered throughout this thesis and specifically in Chapter Two which addresses definitions of EI, suffice to mention here, that EI was viewed initially as "the subset of social intelligence that involves the ability to monitor one's own and other's feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Mayer, 1990, p. 189).

This part of the review demonstrates that consideration of the emotion and reason debate and subsequent emotion research, is essential for the general understanding of EI. However, intelligence research has been instrumental in the emergence of the EI construct, both in its foregrounding and formation. The discussion around the development of the EI construct now presents a summary of the theories considered to be most representative of this considerable field of research while carefully focusing on those predominantly used in academic studies.

2.2 Construct Development of EI

2.2.1 Introduction

The construct of EI assumes that there are actual or perceived differences in the way individuals deal with affect-laden information; this may occur when attending,

processing or utilising such information. As detailed above, the distal roots of EI can be found in the study of intelligence. For example, Thorndike (1920) presented the theory of Social Intelligence; he used the term to describe the skill of understanding and managing other people. Wechsler (1944), strongly influenced by Thorndike, outlined the influence of non-intellective factors on intelligent behaviour, arguing that models of intelligence would not be complete until these factors were described adequately.

Whilst the distal roots of EI can be found in Thorndike's (1920) construct of Social Intelligence, the proximal roots can be found in Gardner's (1983) theory of multiple intelligences. As mentioned, Gardner's work was strongly informed by a cognitive-science model of the mind, and he did not recognise intelligence as a single entity but rather as a system of independent intelligences. As discussed further in the next chapter, the actual term EI appears a number of times in the literature (Greenspan, 1989; Leuner, 1966; Payne, 1986) before the first formal model was introduced (Salovey & Mayer, 1990), or the first relevant empirical studies (Mayer, DiPaolo, & Salovey, 1990) were published. While a detailed analysis of definitions is presented in Chapter Three, this review chapter will continue to focus on the historical development of EI.

2.2.2 Popularisation of EI

Once the theory of EI had been conceived, there was limited interest in academic or professional literature until the publication of *Emotional Intelligence: Why it can matter more than IQ,* by Goleman (1995). Influenced by Salovey and Mayer's (1990) original theory, Goleman (1995) argued that EI is equal to, if not more beneficial than, IQ as an indicator of success in life, personally and

professionally. Thus, the popularisation of the construct of EI was followed by an 'explosion' of research, unfortunately with little correspondence between models and data, and a marked absence of empirical evidence. Whilst the spate of tests and questionnaires are too numerous to mention here, it is essential to consider that the early expansive models, which were developed and discussed primarily in the popular press, caused much confusion because they failed to appreciate the crucial role of measurement in the operationalisation of the construct. Some of these models are included in this review because they are considered to be integral in any account of EI's evolution as a construct. Not often discussed in detail, but also worth mentioning, is that Goleman's model of EI seemed largely to represent a welcome antidote to the fatalistic nature of IQ testing (Matthews, Emo, Roberts, & Zeitner, 2006), whereas low levels of IQ could not be changed, the promise that low levels of EI *could* be improved, appeared to offer individuals opportunities for greater success in life and at work.

Goleman's (1998) second book further elaborated on the initial claims, and with his third publication (Goleman, Boyatzis, & McKee, 2002), the effective use of emotion was assumed to be a basic function of successful leadership. With his view that EI may account for differences between personal and professional success and failure, Goleman (1995, 1998) had championed a model now commonly referred to as a mixed model, which focuses on EI as an array of competencies and skills in managerial performance, and is measured by multi-rater assessment and self-assessment. Similarly to Gardner (1983) and Sternberg (2000), he argued that part of roughly 80 per cent of the variance in a number of forms of success is unaccounted for in IQ and similar tests. Thus, these other characteristics may well constitute elements of EI, although questions remain about validity evidence. The author used four EI constructs when

designing the Emotional Competence Inventory with Boyatzis (ECI: Boyatzis, Goleman, & Rhee, 2000): self-awareness, self-management, social awareness and relationship management.

Keen to demonstrate that EI was comparable with popular IQ measures, Dulewicz and Higgs (1999) shared Goleman's view about performance and claimed that research into intelligence as a predictor of performance shows that IQ measures are poor; only 20 to 25% of variance in performance can be explained by differences in IQ, a claim not entirely supported by other empirical evidence. The authors developed the Emotional Intelligence Questionnaire General and Managerial (EIQ:G, EIQ:M: Dulewicz & Higgs, 1999) which nevertheless remains a popular tool for development and selection in organisations.

Bar-On (1997), the first psychologist to use the term 'emotion quotient', suggested that emotional intelligence develops over time and that it can be improved through training, programming and therapy, a view shared by most authors and practitioners who subscribe to the ability and mixed model. Whilst Bar-On agrees with the notion that EI contributes to a person's success in life, he also suggests that cognitive intelligence and emotional intelligence contribute equally to a person's general intelligence. He designed the Emotional Quotient Inventory (EQ-i: Bar-On, 1997) a self-report measure that assesses emotional as well as social intelligence.

The models mentioned above can be categorised as belonging, among others, to the mixed model category that paved the way to exploration of what EI may constitute. Although discrepancy between popular interest and scientific

discourse remains, two competing models of EI have now emerged that promise to offer empirical evidence for the validity of the EI construct, these are the ability and trait models. These will be presented, highlighting the Mayer-Salovey-Caruso ability model (Mayer, Salovey, Caruso, & Sitarenios, 2003) and the Petrides-Furnham trait model (Petrides & Furnham, 2003) before addressing the crucial issue of measurements in more detail.

2.2.3 Ability versus Trait

The debate about ability or trait is largely interested in the attempts by EI researchers to create and validate a measure of EI, although there are other routes of enquiry not necessarily concerned with test design and evaluation. There have been a number of studies (Bechara, Tranel, & Damasio, 2000; Lane, 2000; Taylor & Bagby, 2000) from the field of biology which view EI as an ability. For example, discussing alexithymia, which is diametrically opposed to EI, Taylor and Bagby (2000) argue that people diagnosed with this condition are unable to understand or describe feelings, express their emotions or to interpret emotional symbols presented to them by others. It can therefore be assumed that people with alexithymia have very low (if any) levels of EI. Taylor and Bagby (2000) attribute this to inadequate or interrupted neurological functioning, suggesting that cognitive abilities are limited for functional use of emotional symbolism due to a problem with neural pathways. To add an example from the field of personality, a study by Douglas, Frink, and Ferris (2004) evidenced the moderating effect of EI on the relationship between conscientiousness and individual performance. Of particular interest to this thesis, is the suggestion that EI can act as a mediator or moderator in this relationship; EI is described as a set of skills utilised to evaluate feelings and perceptions of others. Even more relevant, is the conception of EI,

which, unlike personality, is being dispositional and open to development through experience and training.

Apart from evidence from the field of biology and personality, the ‘trait versus ability’ debate has produced support in favour of trait EI, due to the sheer number of measuring tools available in the self-report format. Although measurement issues are raised later, it is relevant to remark that Salovey and Mayer (1990) initially related EI to extraversion, warmth and other personality traits as well as cognitive abilities. Similarly, the EQ-i (Bar-On, 1997) is a measure not centrally focused on EI, consisting of subscales that are not components but facilitators of the constructs. Whilst it is accepted that all measuring tools need time to develop, it is more important here to acknowledge that most self-report measures are actually based on the ability model generated by Mayer and Salovey (1997).

2.2.3.1 Ability Based Model

Mayer and Salovey (1997) present their model of emotional intelligence as operating across both the cognitive and emotional systems; emotions are considered to be useful sources of information which assist individuals in their efforts to understand and manage their environment. As individuals vary in their ability to process emotional information and relate such processing to wider cognition, they hypothesise that this ability manifests itself in varying adaptive behaviours. Although the model operates in a unitary way, it is subdivided into four types of abilities: emotional perception, facilitation, understanding and management of self and others. These four types of abilities are central to the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT: Mayer et al., 2000), which followed the Multifactor Emotional Intelligence Scale (MEIS: Mayer et al.,

1999). By testing a participant's abilities in each of the four parts of emotional intelligence, scores could be generated in each section as well as provide a total score.

2.2.3.2 Trait Based Model

A conceptual distinction between ability based and trait based models was suggested by Petrides et al., (2000, 2004 and 2006); this distinction concerns the method of measurement not necessarily its theoretical domain. Trait EI, also termed trait emotional self-efficacy, refers to "a constellation of emotion-related self-perceptions and dispositions" (Petrides et al., 2006, p.554). Here the definition of EI encompasses behavioural dispositions and self-perceived abilities; the method of assessment is self-report and embraces emotion perception, emotion management, empathy and impulsivity. This is very different from the ability based model which refers to actual abilities demonstrated in performance based measures; hence, cognitive ability is the key construct in the ability based model, whereas personality has a similar role in trait based models.

In their attempt to operationalise EI, Petrides and colleagues designed the Trait Emotional Intelligence Questionnaire, (TEIQue: Petrides et al., 2003), which is an open access measure shown to be unrelated to non-verbal reasoning, and it is argued by the authors, supports the personality trait view of EI. Other self-report measures include the Emotional Quotient Inventory (EQ-i: Bar-On, 1997), the Emotional Competence Inventory (ECI: Goleman, 1998) and the Schutte Self-Report Inventory (SSRI: Schutte, Malouff, Hall, Haggerty, Cooper, Golden, & Dornheim, 1998). Each has been criticised by Petrides et al., (2007) for offering only limited measures of trait emotional self-efficacy.

Nonetheless, there have been a number of terms used to label trait approaches to EI, most notably, emotional competence and emotional skills, in an effort to provide a scientific framework for the existence of EI. More specifically, the term emotional competence has been utilised to describe individual differences in identifying expressing, understanding, regulating and using emotions (Mayer & Salovey, 1997; Petrides & Furnham, 2003).

Building upon debates about the status of EI particularly concerning whether it is an intelligence or trait, a tripartite model of EI was proposed (Mikolajczak, Petrides, Coumans, & Luminet, 2009) termed EC for Emotional Competency. This model posits that there are three levels of EI: knowledge, abilities and traits.

Thus, knowledge is described as including the complexity and full width of emotional knowledge. The focus here is on people's knowledge and how they deal with emotion-laden situations. Ability refers to the translation of that knowledge into action and the implementation of strategies; the emphasis is on the actual level of ability and not merely on the knowledge of skills or situations (Nelis, Quoidbach, Hansenne, Kotsou, Weytens, Dupuis, & Mikolajczak, 2011). For example, people may know that distraction is an efficient strategy for the reduction of anger, but they may not be able to implement that knowledge. Here, the trait level refers to emotion-related dispositions and knowledge does not always convert into abilities, which in turn does not translate into behaviour.

Before taking a closer look at measurement issues it is imperative to state here that within the context of this investigation, EC and EI are used interchangeably in the present study, not least because of the inherent trait orientation of this model and its ongoing and consistent application of the TEIQue (Petrides et al., 2003) in

research projects. As a relatively new term to describe EI, it is furthermore recognised that more research is needed to substantiate the use and application of the term EC.

2.2.4 Measurement Issues

Following efforts to develop a theory-driven research approach to EI, there have been many attempts to create a measure that encompasses the constituents of EI, for the purpose of scientific research; currently, the debate focuses primarily on the differences between ability and trait EI. Some of the mixed models have been subsumed within the two approaches, whilst some researchers like Bar-On (2000) continue to use fairly broad definitions that include personality and ability domains, without reaching a consensus as to what EI consists of. Nevertheless, general interest has now been separated from academic efforts and theoretical interest in the construct has spread to the scientific community, although this progress has been slow and cautious (Matthews, et al., 2006) with some distrust of the credibility of the scientific EI construct still apparent.

Throughout the development of EI, there has been a debate as to the conceptual distinction between ability and trait EI based on their respective measurement methods and definitions (Petrides & Furnham, 2001). Whilst definitions are explored further in the next chapter, this part of the review aims to raise a number of issues pertaining to the methods of measurement. With most scales being self-report measures, determining which method to utilise for this study is problematic. In general, there are a number of advantages to using self-report measures; for example, they are less time consuming and simpler than laboratory measures, not to mention less dependent on specific equipment (Geher, Warner, & Brown,

2001). Moreover, when examining the predictive validity of the Emotional accuracy research scale (EARS: Geher et al., 2001) the authors suggest that laboratory experiments like performance measures may require participants to complete lengthy and complicated tasks, and because of the ease with which self-report measures can be completed, participants are also easier to recruit.

On the other hand, self-report measures require participants to respond logically with some level of scientific discipline (which is not always possible), and there is a noted susceptibility to social desirability bias (Geher et al., 2001). Any self-report also benefits from an accurate self-understanding so as to avoid the collection of data based on inaccurate beliefs in oneself. The differences between self-report measures of EI and laboratory-based or as in EI research, performance-based measures, as summarised by Zeidner, Matthews and Roberts (2009) are presented in table 2.1 below.

Table .1 - Differences between performance-based and self-report measures of EI

Self-reported EI	Performance-based EI
Typical performance	Maximal performance
Internal appraisal of performance	External appraisal of performance
Response bias may be great	Response bias minimal (or non-existent)
Administration time short, testing easy	Administration time long, testing complicated
Personality-like	Ability like

(Zeidner et al., 2009, p.63)

The authors recognise that there are a number of strengths and weaknesses within both types of measures. They argue for the need to continue validation studies, and concur with Bar-On (2000), who suggested that self-report measures should include scales to detect distortion and socially desirable responses, two of the main problems with self-report.

Whilst some of the general concerns associated with measurement issues have been raised, there now follows an examination of the main theoretical differences pertinent to the two major EI models, in an effort to highlight some of the remaining, unresolved issues. One of the main problems is the use and application of the construct 'intelligence', which represents a crucial part of the ability model (Mayer et al., 2008). The initial theory of EI was based on an analysis of intelligence which recognised that none of the earlier notions of intelligence incorporated EI until the idea of a specific or multiple intelligence had been proposed (Gardner, 1983; Guilford, 1956; Sternberg, 1985).

The reassertion of Darwin's (1872) idea that some emotional facial expressions are universal, together with the suggestion that certain events can lead to cognitive appraisals which can in turn trigger emotions (Dyer, 1983; Scherer, 1993), strongly influenced the theory development of ability EI. Emotions became seen as having a functional role as communication signals, and the understanding of emotional meanings allowed people to understand better their own and others' actions. It is with reference to such theoretical considerations (Mayer, Salovey, & Caruso, 2004) that the ability model of EI was developed. A number of unresolved theoretical issues remain however, including gaining a

clearer understanding of affective dimensions and the social influences that may change emotional expressions (Barrett & Russell, 1999).

An additional problem arises in defining EI as a construct, and one which can be measured. If the construct is defined as an ability it requires the development of cognitive type test items similar to those used in conventional IQ testing. The requirement for right or wrong answers prolongs the question: how can a correct answer be determined when assessing the emotional domain? In their attempt to deal with this problem, ability EI test developers came up with scoring procedures that provide a number of correct options among various alternatives (Mayer & Caruso, 1999). In the development of the MSCEIT, expert scoring and consensus scoring were endorsed in favour of target scoring because the former ensures that psychologists versed in EI can set the standards necessary for the judgement of responses to test items. The latter is based on the view that the pooled responses of large normative samples are accurate (Matthews et al., 2002). These efforts have produced considerable improvements since the early demonstration studies presented by Mayer et al., in 1990, but questions remain about internal consistency and factor structure (Perez, Petrides, & Furnham, 2005).

As indicated, the distinction between ability and trait EI is best observed by the respective measurement methods that operationalise EI and not necessarily by the content of their sampling domains. Even if the two methods assessed exactly the same sampling domains, the resulting operationalisation would be fundamentally different. For some, (Petrides & Furnham, 2003) the measurement of EI as a trait seems to be more acceptable because the construct appears more compatible with the subjectivity of emotional experiences, being definable as a

constellation of emotional self-perception and dispositions that are located at the lower levels of personality hierarchies (Petrides, Pita, & Kokkinaki, 2007). The problem with ability EI tests seems to relate primarily to the criteria as to what constitutes a correct response. Using measures of maximal performance the development of objectively correct responses to test items continues to be a problem.

The theory of trait EI emerged directly from the distinction between trait and ability and makes no reference to a theory of emotions and intelligence that can be measured via maximum performance. The first systematically derived sampling domain of trait EI was based on a content analysis of salient models (Petrides & Furnham, 2001). Unlike the problems encountered by the ability model, difficulty concerning the trait approach is differentiating EI from other, more established trait constructs. For example, some EI questionnaires have been shown to correlate highly with the Big Five personality factors (Davies, Stankov, & Roberts, 1998; MacCann, Matthews, Zeidner, & Roberts, 2002; Matthews, Zeidner, & Roberts, 2004). Proponents of EI have argued that such overlap supports the validity of EI, perhaps not fully recognising that the strength of a correlation may also suggest that a personality dimension is being measured, rather than EI. In addition to the differentiation of EI from other constructs, it is not clear whether the term does cover too many different traits or concepts (Murphy & Sideman, 2006) or whether such traits or concepts do directly concern emotion, intelligence or their intersection (Matthews et al., 2004).

Having discussed some of the problems pertaining to the measurement of EI, it is pertinent to consider some of the measuring scales, in the interest of scientific investigation. The sampling domain and scoring methodology for a number of

measures of EI considered to be representative of the various tests applied in academic research are presented next in table 2.2

Table .2 - Sampling domain and scoring methodology

TEST	Sampling Domain	Tests	Scoring
Self-report scale			
EQ-I (Emotional Quotient Inventory), BAR-ON, 1997	Intrapersonal, Interpersonal Adaptation, Stress Management General Mood	15 scales (132 items)	5-point scale self-report
ECI (Emotional Competency Inventory), Boyatzis et al., 2000	Self-Awareness, Self-Management Social Awareness, Social Skills	19 scales (63 items)	7-point scale; self manager, direct and peer reports
SSRI (Schutte Self-Report Index), Schutte et al., 1998	Four-branch hierarchical model	1 test: 33 items	5-point scale; self-report
TEIque (Trait Emotional Intelligence Questionnaire), Petrides & Furnham, 2003	Comprehensive domain sampling (mainly four branch and EQ-i)	15 scales (144 items)	5-point scale; self-report
Ability scale			
MSCEIT (Mayer-Salovey-Caruso Emotional Intelligence Test Battery) weights, Mayer et al., 2003	Four-branch hierarchical model with Strategic and Experiential superfactors	8 subscales (2 per branch)	Rating scales & multiple choice scored using consensus (general & expert)

(Matthews et al., 2006, in Murphy, 2006, p. 13)

Table 2.2 indicates that the number and use of the questionnaire approach to measuring EI far exceeds the ability test approach. The most widely applied questionnaires are presented (Matthews et al., 2006) although over 50 different questionnaires had been identified by 2003, followed by rapid increases in numbers thereafter (Perez, Petrides, & Furnham, 2005). The MSCEIT is the most comprehensive of a much reduced number of ability models; first presented as the MEIS (1999), the test has enjoyed the longest research development. Other tests, largely related to the MSCEIT, were more limited scales, designed more often than not, to measure singular components of EI. These include: the Japanese and Caucasian Brief Affect Recognition Test (JACBART: Matsumoto, LeRoux, Wilson-Cohn, Raroque, Kooken, & Ekman, 2000), which assesses emotion in faces; the Levels of Emotional Awareness Scale (LEAS: Lane, 1990), which measures the sophistication of emotional language; and the Emotional Accuracy Research Scale (EARS: Geher, Warner, & Brown, 2001), a rating scale for the detection of affective content in stories.

As the most comprehensive ability test, the MSCEIT maintained internal consistency on the already acceptable MEIS levels (.96 with subscale reliabilities ranging from .81 to .96) (Mayer et al., 1999). Although concerns remain about the reliability of some of the subtests, for higher order constructs reliability for the MSCEIT exceeds .90 (Mayer et al., 2003). Of the remaining self-report measures presented above, the EQ-I (Bar-ON, 1997) has attracted some attention regarding the high correlations between the EQ-I and Big Five personality dimension, including low Neuroticism and high Extraversion, Agreeableness and Conscientiousness with some correlations approaching .70 (Dawda & Hart, 2000). Nonetheless, there is some evidence that the EQ-I correlates with various indices of well-being (e.g. Bar-On, 1997; Brackett & Mayer, 2003). Overall, the

EQ-I showed test-retest reliability of .79 after three months and internal consistency reliability of .97 (Bar-On, 2004). Convergent validity evidence reported by Brackett and Mayer (2003), showed that the EQ-I correlated from .58 to .69 with a number of self-report measures, for example, the self-report EI test (SREIT). Regarding discriminant validity, the EQ-I correlated .12 with the Wechsler Adult Intelligence Scale (WAIS).

Unfortunately it remains unclear what is being measured, for example, Mayer and Salovey (1997) argue that EI should connect intelligence with emotions to preserve the meaning of the two terms, whereas Bar-On (2000) refers to emotional (and social) intelligence as measuring a “multifactorial array of interrelated emotional, personal and social abilities" (p. 385) referring to capabilities as being non-cognitive.

Of the self-report measures mentioned above, the ECI (Boyatzis et al., 2000) has probably attracted most criticism in academic literature principally for the theoretical structure upon which the ECI was built and the lack of discriminant or predictive validity evidence. Designed to assess emotional competencies and positive social behaviours, EI is described as an ability and yet the test assesses a number of dispositional variables that resemble personality traits, for example, conscientiousness and trustworthiness. The theoretical framework seems to attempt to link personality and performance, viewing EI as a multidimensional construct. Nevertheless, it should be acknowledged that the ECI technical manual (Sala, 2000) offers some evidence of validity.

Based on Mayer et al.’s (2000) conception of EI, but with similarities to the EQ-I, the Schutte Self-Report Index (SSRI: Schutte et al., 1998) has been statistically

scrutinised. Following the initial identification of a general factor of EI, confirmatory factor analysis showed that the scale was not unidimensional, but was made up of four sub factors in addition to one overall EI factor (Austin, Saklofske, Huang & McKenney, 2004; Petrides & Furnham, 200): Optimism/Mood Regulation, Appraisal of Emotions, Social Skills and Utilisation of Emotions. The SSRI, like the EQ-I, shows some convergent evidence although correlations with the Big Five are much smaller, the largest being .51 (Petrides & Furnham, 2001).

As the MSCEIT enjoys the status of being the most comprehensive test for ability EI, the TEIQue (Petrides & Furnham, 2003) has a similar position in trait EI testing (Petrides et al., 2000, 2004, 2007) proposed a conceptual distinction between the ability and trait based models, and, as mentioned above, they analyse trait EI as a constellation of emotion-related self-perceptions and dispositions. Conceptualising trait EI as a personality trait, the construct positions itself outside of human cognitive abilities. The TEIQue, which can be accessed in a longer original version, and a shorter, revised version (TEIQue-SF), provides one way of operationalising the EI construct.

The original TEIQue is a self-report inventory that utilises 144 items to measure 15 distinct facets, thus proving reliable global trait scores that correlate positively with a wide range of diverse criteria, including coping skills and life-satisfaction (Petrides et al., 2004). The short version comprises 30 items, two items from each of the fifteen subscales. These were selected primarily on their correlations with the corresponding total subscale scores. There continues to be some debate relating to the overlap between EI and the Five Factor Model (FFM: Costa & McCrae, 2008) of personality measures. Nonetheless, Matthews et al. (2012) suggest that studies interested in continuing research into EI may well focus on

how EI measures can “add usefully to existing personality scales, such as those for the FFM in spite of much overlap between measures”. (Matthews et al., 2012 p.73).

Whilst studies will no doubt continue not only in relation to personality scales, but also across the whole spectrum of EI research, it appears that, at the present time, research outcomes contribute largely to either one or the other school of thought: trait or ability. In academic research, the former appears to be directed by the TEIQue and the latter by the MSCEIT because of their respective scientific and theoretical rigour. Nonetheless it must be recognised that other self-report scales such as the SSRI, have been evaluated and shown to be a reasonably effective measure of self-perception of EI (Petrides & Furnham, 2000), whereas there is no ability test that is comparable to the MSCEIT. Although the MSCEIT is one of the best scientifically based measures of EI (Matthews et al., 2006), for objective assessment, even this has some problems with scoring. To name a specifically relevant example, it remains difficult to agree if the answer to a test item of the MSCEIT is right or wrong (Brody, 2004). In response to this statement, Mayer et al., (2002) suggested two scoring methods, expert scoring and consensus scoring, because the former offers judgements by experts of emotion and the latter is based on the most frequently given answers provided by a normative sample. Whilst Mayer et al., (2003) advanced their idea by demonstrating a high degree of convergence between expert and consensus scores on the MSCEIT, Brody (2004) emphasised that the test items were qualitatively different from cognitive ability items suggesting that the MSCEIT assesses the knowledge of emotion but not any tasks related to the knowledge being assessed. Other scoring issues include lack of investigations into disagreements between experts and insufficient evidence for incremental

predictive validity. Also, administration is complex and time-consuming, unlike self-report measures which are easy to administer and time efficient, although it is recognised that the latter method yields its own issues with scoring; for example, participants are required to have some insights into their own level of EI and may not accurately understand their level of intelligence. Furthermore, the method is open to distortion or faking responses which may also be related to lack of awareness, self-deception or, indeed, self-enhancement. Nonetheless, in considering a test for this study a self-report measure like the TEIQue would sit more appropriately in a design that utilises other self-report tests to allow for the appropriate application of statistical analysis so as to ensure valid results in response to the research questions that explore the construct of EI.

To conclude this part of the review, the development of the EI construct has been introduced in relation to the debate surrounding the tension between reason and emotion in an attempt to demonstrate how this conflict has had a continued influence on the evolution of EI, its conceptualisation and research. As the focus of this study is EI, happiness, self-esteem, mood and personality, an outline of each of these constructs will now be presented next.

2.3 Associated Constructs Pertaining to this Study

2.3.1 Introduction

Having outlined the development of the EI construct, there will now be a review of the theory underpinning each of the remaining constructs so as to form a firm footing on which project explorations can be built. Although relationships between happiness, self-esteem, mood, personality and EI will be further explored in

Chapter Four, it is relevant to consider that a growing number of studies have investigated those relationships. For example, Schutte, Malouff, Simunek, McKenlye, and Hollander, (2002) showed that higher EI was associated with positive mood and higher self-esteem and Furnham and Petrides (2003) investigated happiness, personality, cognitive ability and trait EI. They showed that extraversion and openness to experience were positively related to happiness, with neuroticism being negatively related. Cognitive ability was neither related to trait EI or happiness and trait EI explained over 50% of the total variance in happiness.

Moreover, mood and personality have been investigated in relation to EI for a number of reasons. Commonly, mood has been differentiated from emotion; the former has been defined as less intense and longer lasting than the latter (Thayer, 2001), although, as suggested by Mandler (1975), definitions of mood have generally been based on emotional reactions. The investigations into mood have been of particular importance to EI researchers like Salovey et al., (2002) and Petrides et al., (2003) because of their interest in mood regulation, insights into current emotional states and possible strategies for modifying mood. Studies of personality have been of particular interest because some of the dimensions of personality may well overlap with emotionally intelligent qualities (McCrae, 2000).

The aim of this overview has been to highlight some of the research in this field and to underline that most studies have focussed on investigating EI and its association with less than four variables. The theories sustaining the remaining variables identified for this study are presented below; their relationships with EI are further explored in Chapter Four.

2.3.2 Happiness

Research into happiness has a relatively short history, not emerging until the 1960s, when American survey organisations started to ask questions about happiness and satisfaction. This is not to suggest that the concept of happiness did not exist before, although it was not thought of as an emotional state, but as an outcome of a moral component by early philosophers (for a review see Tatarkiewiccs, 1975). Indeed, early Greek philosophers, particularly Epicureans and the Stoics debated the notion that happiness is 'relative', a common theme re-emerging in theories during the 1970's within the fields of social sciences (Brickman & Campbell, 1971) and economics (Easterlin, 1974). These theories postulate that happiness does not depend on objective measurements of what is good, but rather on subjective comparison; thus, the pursuit of happiness was viewed as futile and evasive. Upon examining the theory that happiness is relative, Veenhoven (1991) suggested that it mixes up 'overall happiness' with 'contentment' and concluded, "to a great extent happiness depends on the gratification of innate bio-psychological needs which do not adjust to circumstances: needs mark in fact the limits of human adaptability. The better these needs are gratified the better we feel and the more satisfied we are" (Veenhoven, 1991, p. 32).

Veenhoven's study marks the early 1990's when researchers in the positive psychology movement stimulated the study of the conditions and processes involved in optimal functioning. Since that time, the study of happiness and well-being has become a field of major standing (e.g Diener, 2000; Lyubomirsky et al., 2005; Seligman & Csikszentmihalyi, 2000). Credit must be given to landmark studies that contributed to happiness research since its early days, for example,

Veenhoven (1994) completed an extensive re-analysis of surveys from around the world, *Correlates of Happiness.* Equally relevant was *Well-being*: *The foundations of Hedonic Psychology,* edited by Kahneman, Diener and Schwarz (1999). Today, researchers in this field publish primarily in psychological journals, although economists and governments have become increasingly interested in happiness and well-being because of, for example, the effects and costs of unemployment, health and well-being.

Pertinent to this study is a need to clarify what the term happiness represents and how it differs from well-being. The answer will be sought with reference to a number of studies that produced empirical evidence. For example, 54 per cent of Americans are 'moderately mentally healthy', lack enthusiasm for life and are not actively engaged in life; though not clinically depressed they can be identified as seeking happiness (Keys, 2005), which may simply mean wanting to be more engaged with others or finding more meaning in life. To focus on happiness and fulfillment seems the obvious choice and yet psychology has, for the last half century, been fixated on disease, disorder and the negative part of life (Diener, 2000) and not on strategies to advance health improvements in order to increase happiness and well-being.

It may be prudent here to briefly clarify what is meant by happiness and well-being. In general, happiness may be identified as a mental or emotional state of well-being typified by varying emotions that can range from contentment to intense joy. Seligman (2003) described happiness as consisting of three parts, emotion, engagement and meaning. Diener (2000) referred to well-being as a combination of life satisfaction and having more positive than negative emotions.

In attempting to distinguish between happiness and well-being, Seligman (2011) analysed both in terms of their goals and measurements; the goal of happiness in his authentic happiness theory was to increase life satisfaction through the employment of life satisfaction measures. The goal of well-being is associated with attempts to increase flourishing via the five elements: positive emotions, engagement, positive relationships, meaning and accomplishment. These elements form the constituents of measurements and are further examined later in this chapter.

Moreover, whereas the authentic happiness theory comprised pleasure, engagement and meaning, emphasising feeling good and maximising such feeling, the well-being theory added accomplishment and positive relationships. Thus, positive emotion is subjective and defined by what individuals feel and think, whereas meaning, accomplishment and relationships have both, subjective and objective components. Hence, this well-being theory includes the goal to increase flourishing in individual lives and the planet.

When identifying the most important factor that determines happiness, Lyubomirsky, Sheldon, and Schkade (2005) drew on well-being research on identical and fraternal twins (Lykken & Tellern, 1996), in order to propose that chronic happiness levels are directed by three major factors: a genetically determined set point, circumstantial factors, activities and practices that are relevant to happiness. Thus, Lyubomirsky et al., (2005) argue that the genetically determined set point should be 50%, and that circumstances should account for 10% with intentional activities contributing 40% to levels of happiness. The implication of this finding for happiness is that similar to the genes for intelligence, the magnitude of the set point largely determines levels of happiness for life.

Even if this is so, there are some findings which are not only interesting but also offer a comprehensive summary of what makes people happy,

- Money does not make people happy on the whole.
- Winning the lottery makes many people less happy than a satisfying family and social relationships and job satisfaction.
- Happy people live longer similar to those who go to church.
- Having children has no overall effect on happiness.
- Older people are happier than younger people.

(Based on Argyle, 2001)

Argyle's all-inclusive approach to happiness is a valuable contribution, not only to the overall understanding of happiness, but also to the measurement of this construct. There continues to be some confusion about the difference between happiness and well-being, an issue recently addressed by Seligman (2011), who also offers an interesting view of the assessment of this construct. He suggests that happiness is identified as a term that is no longer workable for science or any practical scenario, arguing that positive psychology must break happiness into a workable arrangement because the approach is about "what we choose for its own sake" (p. 11). To draw on his previous analysis (Seligman, 2003), happiness is divided into three elements that determine action: positive emotion (pleasant feelings, comfort, warmth, ecstasy); engagement (loss of self-consciousness, absorption into activity); and meaning (belonging to and/or serving a purpose larger than yourself, religion, politics, family). The authentic happiness model was

the result of extensive and ground-breaking research (Seligman, 2008), which suggests that happiness can be built by deliberately creating more pleasure, engagement and meaning in life. Such engaged life grows once the highest strengths are realised and repeatedly engaged so that fullness and flow are experienced. Once strengths and ability or talent is used for something more than individual gratification, the meaningful life is possible and hence authentic happiness will be experienced as a result.

In summary, the theory of authentic happiness assumes that happiness can be distinguished into three elements chosen for their own sakes: positive emotion, engagement and meaning; each being better defined and more measurable than happiness. Nevertheless, the authentic happiness theory is now viewed as an attempt to explain happiness by measuring life satisfaction, whereas well-being is a construct which consists of several measurable elements, each contributing to but not defining this construct.

After re-analysing this authentic happiness model, a number of issues were identified. Happiness is in general conflated with cheerfulness and positive emotions; this is confusing, particularly when adding engagement and meaning. Neither engagement nor meaning has any relation to ‘feeling’ and so is not connected to the idea of happiness. Also, the measure of life-satisfaction needs to be reconsidered because it essentially measures cheerful mood in the moment.

The main argument presented here concerns the measurement of happiness in that it seems difficult to be defined as a directly measurable entity, unlike well-being which can be defined in relation to five elements summarised here:

- Positive emotion – remains a cornerstone of well-being, it is no longer the goal of the theory, now just one factor.

- Engagement – remains crucial and measurable by self-report questionnaires. Like positive emotion above, engagement can be measured independently of the remaining elements. The concept involves a fulfilling and positive state of work-related well-being, there are parallels with the concept ‘flow’ in terms of absorption and immersion in a task. Research by Bakker and Leiter (2010) revealed that engaged employees are highly energetic, self-efficacious who can exercise influence over events that influence their lives.

- Meaning – this has a subjective component, but not solely subjective, feelings on the meaning of something might change in time. Dispassionate or objective view may dispute value judgements of meaning in actions.

- Accomplishment – (or achievement) can be pursued for its own sake even when it brings no positive emotion or meaning, for example in gaming or wealth accumulation.

- Positive relationships – helping other people is good and positive, but only if the relationship is pursued for its own sake and not for reasons related to accomplishments. As so aptly put by Seligman (2011), “other people are the best antidote to the downs of life and the single most reliable up”, (p. 20)

Each of the five elements of well-being must have three properties in order to count as an element, firstly they must contribute to well-being, secondly they

must be pursued for their own sake not for other elements and thirdly, they must be defined exclusively and not be dependent on other elements.

This approach offers a new insight into this area which seems more in line with the approach adopted by Gallup (Rath & Harter, 2010). Wellbeing is viewed as not only happiness, wealth, success or physical health; it is a combination of affection for daily life, quality of relationships, financial security, physical health, and community interaction, and the overall interaction between each of these. This research shows that the value people tend to attach to income and health is disproportionately high which may simply suggest that these are entities which are easy to measure over time. The same cannot be said about relationships because there is no standard measurement of relationships. Gallup created 'the Wellbeing Finder' by testing hundreds of questions globally. The completed research shows five distinct statistical factors that differentiate thriving from suffering. The authors state that they "describe aspects of our lives that we can *do something about* and that are important to people" (Rath & Harter, 2010, p. 5):

- Career Wellbeing – do you like what you do? (Not necessarily only professional).
- Social Wellbeing – strong relationships, romance.
- Financial Wellbeing – effective economic management.
- Physical Wellbeing – good health and enough energy to go about your life.
- Community Wellbeing – engagement with the area where you live.

The five elements are universal, but people pursue the fulfilment of these factors differently. The five elements are said to be universal on the bases of the results generated from a global study of more than 150 countries, representing 98% of the world's population (Rath & Harter, 2010). People pursue the fulfilment of these factors differently, for example, faith or spirituality can be a driving factor in all five areas, recognising that everybody has different personal motivations. Because each of these elements is within the control of the individual, the person should be capable of living a better life and improving wellbeing although 66% of people do well in at least one area and only 7% are thriving in all five. Taken together it appears that the study of happiness and well-being has yet to reach definitive conclusions in its search for an acceptable answer as to what defines this construct.

2.3.3 Self- Esteem

The construct of self-esteem refers largely to self-perception and making value judgements; it can be viewed as a general concept or dependent on smaller variable components. Self-esteem is distinct from *self-concept,* although the two are sometimes used interchangeably. The latter is the sum total of all the cognitive beliefs that individuals hold about themselves, whilst self-esteem, though related, remains separate and may be low or high without any obvious evidence. As with happiness, the study of self-esteem did not emerge until the 1960s when it became a fashionable and influential idea, although the history of the term can be traced back to Hume (1739), who advocated that nothing can be as worth having, as self-value. The first psychological use of the term was presented by James (1890), who studied self-esteem based on introspection and viewed it as an affective process.

Further sources of self-esteem are traceable to the notion of the *looking-glass self* (Cooley, 1902), where self-appraisal is inseparable from the social milieu. Similarly, subsequent thinking by Coopersmith (1967) and Rosenberg (1965) is in agreement with *symbolic interactionism* (Mead, 1934), whereby individuals view themselves the way other people see them. This is a view that has been echoed and built on by researchers who suggest that collective self-esteem is based on a social identity of belonging to a particular group (Luhtanen & Crocker, 1992). The sociometer theory proposes that humans have a fundamental need to belong, and within this evolutionary approach individuals need to be part of a group in order to survive. Therefore, self-esteem functions as a monitor for possible social rejection or exclusion and low self-esteem becomes highly correlated with social anxiety (Leary, Tambor, Terdal, & Downs, 1995).

Having recognised some of the influences on the development of self-esteem, there have been a number of major contributors who have directly shaped the concept of self-esteem. A summary of their contributions reflects the vast and varied nature of this field of research to show how the usages of self-esteem and its connotations change. For example, White (1963), similarly to James (1890), views self-esteem as a developmental phenomenon, adding that it develops gradually, being affected by and in turn affecting experiences and behaviour. With the notion of competence central to this theory, there exists an internal and an external source of self-esteem; the former refers to one's own accomplishments and the latter to the affirmations from others. Within the sociocultural approach, Rosenberg (1965) defined self-esteem as an attitude towards the self, an attitude which may be positive or negative. Thus, self-esteem is the result of the influences presented by society and its culture, as well as family and interpersonal relationships. The level of self-esteem an individual is able to

achieve is proportionate to how far he or she measures in a core set of self-values. With feelings and beliefs about worthiness central to his theory, Rosenberg can link self-esteem to varying levels of anxiety and depression.

The behavioural perspective offered by Coopersmith (1967) is similar to Rosenberg's (1965), in that self-esteem is an attitude and an expression of worthiness and can also be linked to anxiety and depression. This theory includes success together with self-worth as indicators of self-esteem, and suggests that it is a trait acquired during childhood from modelling parents' behaviour and then further reinforced by others. The humanistic view of self-esteem is offered by Branden (1969) and is defined in terms of worthiness and competence. As a basic human need and dynamic in nature, low levels of self-esteem may have consequences in the form of suicide, substance abuse, anxiety and depression. Self-esteem is perceived as relating to the ability to live in a way that honours a positive self-view; at the centre of the theory is personal worth, self-confidence and self-respect. Epstein (1993), with his cognitive- experiential view considers self-esteem as a basic human need; a worthiness that motivates individuals, consciously and unconsciously. It is the consequence of a particular understanding of the world and who people are in relation to this world. There are different levels of self-esteem in this theory, from global to intermediate to situational; the first refers to a general, overall self-esteem, the second is specific to certain domains like competence and personal power and the third represents the everyday manifestations of self-esteem.

As mentioned above, this summary is representative of the wide range of theoretical contributions that have shaped this construct, although it seems appropriate to briefly mention some concerns. As regards the first theory (White,

1963) it would be difficult or near impossible, to test this theory experimentally. Coopersmith (1967) applied observational techniques in controlled situations, case studies and interviews, yet research findings are limited by the sample group of white middle-class males. Branden's (1969) theory, although highly respected, is based largely on philosophy rather than empirical data and Epstein (1985) appears to be motivated by personality development and not self-esteem. This leaves Rosenberg (1965) with the strongest empirical evidence; the theory is based on the solid analysis of data from a large sample group of 5000 and is utilised more often than the total number of other self-esteem measures.

Taken together, it could be argued that there continues to be a lack of a coherent approach to the study of self-esteem, with no clarity as to the best method of evaluating an individual's self-esteem. Nonetheless, there are some fundamental agreements, for example, self-esteem can affect health in that high self-esteem has health benefits whilst low self-esteem can lead to distress and depression. People with high self-esteem are better able to cope with challenges and negative feedback; within the educational context low self-esteem has been linked to poor academic achievement, and within the justice system to crime and drug use. Sex differences in self-esteem have also been explored and girls found to be influenced by personal relationships, while boys are more influenced by objective success (Stein, Newcomb, & Bentler, 1992). A prominent debate for some time now has been the relationship women have with their body shape; they are more likely to evaluate their bodies negatively, attempt weight loss or have cosmetic surgery, and repeated failures in achieving the perceived right image may exacerbate body image dissatisfaction, leading to low levels of self-esteem (Heatherton & Polivy, 2001).

It is recognised that psychologists' interest in self-esteem has grown exponentially over the years with more than 15000 journal articles published towards the end of the 1990's (Baumeister, 1998). For this study, it suffices to present the above overview and to draw attention to the finding that the vast majority of articles argue that self-esteem is positively associated with adaptive outcomes (see Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004), and to conclude, below is an indication of some of the most commonly applied scales, in the assessment of self-esteem.

The Revised Janis-Field Feelings of Inadequacy Scale (JFS), (1959) is a test that aims to measure self-regard, academic ability, social confidence and appearance. It is recommended for studies in which researchers wish to examine multiple components of self-esteem. As the most widely used measure of global self-esteem, the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965) is utilised in 25% of published studies as reviewed by Blascovich and Tomaka (1991). The RSE is a 10-item Guttman scale with high internal reliability (alpha=.92) loaded phrasing in questions. Whilst this test measures global self-esteem, the State Self- esteem Scale (SSES) (Heatherton & Polivy, 1991) is a commonly used measure sensitive to laboratory manipulations of self-esteem. The 20-item list aims to identify momentary fluctuations in self-esteem. The three factors, performance, social and appearance of the scale are usefully applied when interest lies with the immediate effects associated with feelings about self.

The above scales have been mentioned to indicate the spread of scales available, the measurement of self-esteem is arguably more problematic compared with the other constructs. In addition to the problems with self-reports, which have been stated elsewhere, there exists an unusually high number of

poorly validated scales that have caused problems for researchers across the field of psychology. Self-esteem has also been questioned in that some psychologists have attempted to define “true self-esteem” or “optimal self-esteem” as a healthy alternative to general self-esteem (Neff & Vonk, 2009). According to this research, self-esteem is associated with a steady rise in narcissism over the last 45 years. High self-esteem is associated with the need to feel superior to others in order to feel fine about oneself. People with high self-esteem tend to dismiss negative feedback, trivialise their failures and take less accountability for their own harmful actions. Self-kindness, also referred to as self-compassion, has been suggested as an addition (or even alternative) to self-esteem; it has recently been investigated by social psychologists who have sought to quantify and evaluate the role of self-kindness in relation also to well-being (Neff, 2011).

2.3.4 Mood

Mood is a term derived from the Old English word of *mod*, which represented military courage but could also refer to personal courage. The study of mood has generated as many diverse definitions as it has produced interpretations of emotion. Amongst the first attempts to define mood was the suggestion that moods are involved in the self-monitoring and self-regulation of complex behaviour (Nowils & Nowils, 1956), where they represent an intervening variable or predispositional factor that is a source of information. At approximately the same time, Jacobsen (1957) referred to moods as the barometer of ego, whilst Pribram (1970) suggested that moods monitor and reflect our appraisal of life circumstances. In aiming to analyse mood in relation to the state of feelings, Gardner (1985) suggested that moods are mild, transient, general and pervasive.

Others (Luomala & Laaksonen, 2000) have attempted to quantify definitions in relation to their emphasis on structural (e.g. Clark & Isen, 1982; Derbaix & Pham, 1991; Gardner, 1985, 1987) and functional aspects of mood (Lazarus, 1991; Morris, 1989; Parrot, 1993; Thayer, 1989) Traditionally, the term mood has often been used interchangeably with emotion and together with the term affect this has led to a bewildering number of theories. In the early 1990's, some researchers noted that "most often, the terms *affect, mood* and *emotion* are used interchangeably, without any attempt at conceptual differentiation" (Batson, Shaw, & Oleson, 1992, p. 295). Since then progress in this field has nonetheless led to some lines of demarcation. (Alpert & Rosen, 1990).

An example of core affect would be pleasure and displeasure, energy and tiredness or tension and relaxation. Here the term is defined as a "neurophysiological state consciously accessible as a simple primitive non-reflective feeling most evident in mood and emotion but always available to consciousness" (Russell & Feldman Barrett, 2009, p.104). When defining emotion, the authors refer to the occurrence of an emotion as a prototypical emotional episode which is a "complex set of interrelated sub-events concerned with a specific object" (Russell et al., 2009, p.806). Moods can be distinguished from emotions in that they last longer, for example, Thayer (2001) describes moods as being distinguishable from emotions in that moods can be defined as less intense and longer lasting than emotions; another differentiating feature is that they are diffuse and global and not necessarily specific, conceding that the cause of a mood is not always easy to identify, because unlike emotions a mood can usually be temporally remote from its cause (Morris, 1992).

A ground breaking study by Watson and Tellegen (1985) introduced the construct of mood dimensions, an approach reflected in the theories of Thayer (1989) and Gregg and Shepherd (2009). Utilising factor analysis, two factors or dimensions were identified to incorporate all mood variations; these are termed *positive affect* and *negative affect*. Positive affect is associated with a number of different feelings, like enthusiasm and activeness, whilst negative affect is associated with adjectives like jittery and nervous. Both have approximate opposites, lethargy and tiredness for the former and calm and relaxed for the latter affect. This is based on Mandler's (1975) theory which describes emotions and moods as combinations of 'arousal and meaning analysis' conveying that they result from a cognitive evaluation of autonomic responses to stimuli.

Thayer (1989, 1996) contends that instead of positive and negative being the two bases of mood, energy and tension, are the central components of mood. He proposes a theory of four basic moods on two arousal continuums:

- **Calm-Energy** is the result of a well-managed diet and good physical health, combined with engagement with work. This leads to increased metabolic and cardiovascular activity and feeling energetic, focused and confident.

- **Calm-Tiredness** refers to a period of reduced metabolic rate and feelings of sleepiness and drowsiness.

- **Tense-Energy** may be experienced as positive, depending on the situation, although there is a sense of urgency. The biological state is similar to that of calm-energy with feelings of tension, anxiety and energy.

- **Tense-Tiredness** is the result of “depleted resources” and fatigue combined with feeling nervous and anxious.

Central to Thayer’s theory of mood are the roles of energy and tension and the moods they produce. For Thayer, everyday moods are biopsychological in nature and he suggests that, with this combined effect of biology and psychology, moods change according to natural biological rhythms as well as events. Nonetheless, Thayer embraces the underlying physiology of mood but also includes environmental and situational factors. He describes mood as a feeling that is in the background and that persists over time (Thayer, 2001). He likens mood to a thermometer that constantly takes people’s temperature to assess their psychological and physiological conditions. Whilst he recognises that moods are related to emotions –they are not the same, being less intense. As also noted by others (e.g. Morris, 1992) they can be longer lasting than emotions and without a necessary cause and effect relationship that is present between events and emotions. It is also pertinent to recognise that moods can influence thinking, judgement and perception, for example, transient, mild, positive mood has been shown to increase integrative decision-making and subjective risk assessment to facilitate flexibility of thinking and problem solving (Isen, 1999).

Applying this research to everyday life, it appears that mood also changes according to the time of day with biological rhythms. Late afternoon to evening is when people are most likely to be tense-tired. Test subjects reported that they tended to find long-term problems more serious during the afternoon, when their energy is low, suggesting that future energy levels are difficult to determine when judgements are based on current energy levels (Thayer 1989). Energy levels are good indicators of overall wellbeing; when energy and tension levels combine

with thoughts they produce moods and tension. They are barometers of safety (or threats) levels people feel at any given moment. Thayer taps two bipolar dimensions, energetic arousal and tense arousal, when designing the Activation Deactivation Adjective Checklist (AD ACL: Thayer, 1989).

Although this two-dimensional approach defines and measures mood amply alongside a multitude of other measurements (see Ekkekakis, 2008), it is also quite restricting to measure mood in terms of arousal only. Hence, Morris and Wickes (2007) present the concept of 'mood space', which is a three-dimensional model that incorporates the pleasantness of mood and is based on the three principal dimensions of the UWIST Mood Adjective Checklist (UMACL: Matthews, Jones, & Chamberlain, 1990). These dimensions refer to the bipolar scales of Energetic Arousal, Tense Arousal and Hedonic Tone, which are analogous to longitude, latitude and elevation within the 'mood space' model. Mood is defined in relation to the position of the individual within the model. Building upon Thayer's model, the UMACL balances positive and negative items; initially designed to comprise five subscales, sketched out below, the first two have no factorial basis with the main three factorial bipolar scales that have also good psychometric properties (Matthews et al., 1990).

The Anger-Frustration subscale is a unipolar scale comprising positive items like 'impatient' 'annoyed' and 'angry'. In the absence of a factorial basis interpretation should be undertaken with caution; at best it may be suitable when investigating anger. Similarly, General Arousal does not benefit from a factorial basis, it provides a measure of arousal regardless of the pleasantness of mood. The scale is constructed with positive and negative items taken from the Energetic Arousal and Tense Arousal scale. Although the UMACL has been used to measure mood

in a variety of research applications, more often than not these two scales are now omitted leaving the remaining three scales summarised here:

Energetic Arousal measures feelings of subjective energy which includes items like:

- Energetic, alert and vigorous on the positive end of the scale.
- Passive, sluggish and tired on the negative end of the scale.

Tense Arousal measures feelings of subjective tension that include items like:

- Nervous, tense and jittery on the positive end of the scale.
- Relaxed, composed and calm on the negative end of the scale.

Hedonic Tone measures overall pleasantness of mood and includes items like:

- Happy, cheerful and satisfied on the positive end of the scale.
- Sorry, depressed and sad on the negative end of the scale.

The test measure is universally applied because mood is understood as affective experience of moderate duration (at least several minutes), not object-related or quasi object-related in these three dimensions of the core affect, and because of the high internal consistency coefficients for all three scales. An ‘emotion-like’ experience that nevertheless differs from moods in that moods can be defined as less intense and longer lasting than emotions and less specific and less likely to be triggered by a specific stimulus. Yet, moods are different from personality

traits, which are even longer lasting with traits like optimism and neuroticism predisposing certain moods. Personality is the next and last associated construct presented here.

2.3.5 Personality

The term personality originates from the Latin word *persona* and basically means mask, the word was employed to describe or typify a character in the theatre of the ancient Latin-speaking world. Even though there is no universal consensus as to the actual term personality, it refers generally to its purpose, which is to identify patterns in and develop an understanding of how and why individual human thoughts, emotions and behaviour occur in a particular way, including a prediction of likely reactions to others and the environment (Funder, 2001). There are basically two ways of studying this area, the nomothetic and idiographic (Allport, 1937), representing two different views as to whether all traits exist in all people. The ideographic view accentuates the unique psychological structure in people, suggesting that some traits are part of only one person, which makes comparisons difficult. These traits may also differ in importance from one person to another, leading to cardinal, central and secondary traits. The nomothetic view, however, emphasises comparability among individuals but views people as unique in their combination of traits. Traits have the same psychological meaning in everyone and people differ in the amount of each trait. Whilst it is recognised that modern research tends towards a nomothetic approach, personality is located in a number of categories, summarised below:

The psychoanalytic paradigm gained respect towards the end of the 1990s through a reassessment of Freud's theories. Notably, an article on the defence

mechanism in the *Journal of Personality* (1998) suggested that the need for defence mechanisms remains strong (Baumeister et al., 1998). Previously viewed as armchair speculation, it became a field of empirical research with an interpretation of the defence mechanism (Baumeister et al., 1998; Norem, 1998). Thus, there was a new respect for Freudian interpretation of personality as a visible result of concealed mental compromises, although Funder (2001) questions whether this is deserved, and reminds readers that Freud's personal life has continued to generate controversy (Crews, 1998).

The Trait paradigm relies on constructing ideas of personality traits which can be assessed on a scale of prominence in a subject, often the “Big Five” of extraversion, neuroticism, conscientiousness, agreeableness, and openness to experience, as discussed in more detail below. The person-situation debate questions whether the behaviour of individuals is widespread enough to merit extrapolation into or through personality traits. This debate is largely informed by the discovery of strong correlations between individual behaviour in differing scenarios, and consistency and change that may not satisfactorily be linked statistically (Funder & Colvin, 1991).

The behaviourist paradigm was founded on the notion that behaviour is solely a function of environmentally imposed reinforcement (Skinner, 1938; Watson, 1925). Thus, it began as an attempt to remove all subjectivity from the field of psychology, but this approach was seen as unsustainable because human behaviour is more likely to be influenced by suspected potential reinforcement than actual reinforcement. The field is now based on methodology diametrically opposed to how it was founded, embracing the cognitive concepts it rejected. (See social learning theory, Rotter, 1954; social cognitive theory, Bandura, 1999;

cognitive-affective personality system, Mischel, 1999). This approach embraces self-comparisons between perceived self, ideal self, and desired self with the social cognitive perspective of personality, and it emphasises the importance of observational learning, self-efficacy, situational influences and cognitive processes. One of its proponents, Bandura (1999), accentuated the role of conscious thoughts, including self-efficacy, and our own beliefs in our abilities.

A cross-cultural psychology, developed from the humanistic paradigm, questions whether European and North American understanding of human psychology is applicable to other cultures. Humanist theories emphasise the importance of free will and individual experience in the development of personality. For example, theorists like Maslow (1962) promote the notion of self-actualisation and the concept of a hierarchy of needs (Maslow, 1987). This hierarchy suggests that people are motivated to fulfil basic needs before moving on to other, more advanced needs. Rogers (1961) advocated that a fully functioning person is one who is in touch with his or her deepest and innermost feelings and desires. These individuals understand their own emotions and place a deep trust in their own instincts and urges. Unconditional positive regard plays an essential role in becoming a fully functioning person. A theory of personality and cognition, termed Construct Psychology (PCP), was developed by Kelly (1955/1991). Kelly explicitly states that each individual's task, in order to understand her or his personal psychology, is to put in order the facts of personal experiences. Then, they must become like scientists, to test the accuracy of that constructed knowledge by performing those actions the constructs suggest, based on interpretations of observations and experiences with every construct being ‘bipolar’.

The biological and evolutionary paradigms study generational and anatomical aspects of behaviour with biological approaches, suggesting that genetics are responsible for personality, while research on heritability suggests a link between genetics and personality traits. As suggested by Ahmetoglu and Chamorro-Premuzic (2013), “one of the most interesting aspects of the biological research into personality is how it illuminates our understanding of the interplay between genetics and the environment. It is now clear that, far from having independent effects, biological and environmental determinants are intimately entangled” (p.98).

As mentioned, there is no consensus on the mutual use of the term personality, its theory or approach. Nonetheless, there are a multitude of tests each measuring various aspects of personality and signifying the theoretical approaches presented earlier. Some of the most noticeable developments, in addition to Eysenck’s (1947) PEN model, Costa and McCrae’s (1999) Five-factor model and the subsequent HEXACO model (Lee & Ashton, 2004) are briefly outlined next. Initiating this development was the assumption that basic traits can be revealed from factor analysis, which stems from the lexical hypothesis. This hypothesis suggests that important characteristics and traits unique to individuals have become intrinsically embedded in our natural language lexicon over time. Therefore, the systematic examination of trait adjectives will indicate individual differences that will withstand the test of time (Goldberg, 1990).

The first attempt to search out traits, by Allport and Odbert (1936), was partly built on this hypothesis and resulted in 4,500 trait descriptors. Similar in its approach, Cattell (1943) used this list of trait descriptors as a foundation for his subsequent analysis. Asserting that there are hierarchical relations between trait concepts, he

distinguished between surface and source traits with the ultimate goal of revealing the underlying basic structures in order to reduce the list of traits. Having eliminated synonyms, antonyms and, based on his own judgement, difficult and uncommon words, the list was reduced to 171 trait adjectives before correlational and factor analyses identified the intercorrelations between those traits. Further additions and omissions led to 16 primary factors, which Cattell concluded comprised the final list. Although it is recognised that his theoretical and empirical contribution forms an essential part of the study of personality, the model of the 16PF is now merely viewed as an important building block for current studies. The primary reason for this relates to the findings that the 16 factors also correlate with each other, that is, although the number has been extensively reduced, many continue to co-occur. In general, trait theories of psychology are considered the dominant approach within personality research (Matthews, Deary, & Whiteman, 2009). Trait theories assume that personality can be reduced to a number of stable factors which encompass a high number of individual traits. These form the descriptive overview of individual characters and there are two dominant models. The five- factor model (Costa & McCrae, 1992) comprises five dimensions: extraversion, neuroticism, agreeableness, conscientiousness and openness to experience, and Eysenck's (1947) model which embraces three dimensions: extraversion, neuroticism and psychoticism. Like Cattell, he believed that personality should be investigated and measured psychometrically. Unlike Cattell, he believed that the practice of factor analysis was a means of developing a theory as part of understanding the structure of personality. Whilst Cattell's primary factors correlated with one another, Eysenck conducted secondary factor analyses and thus formed the three independent and uncorrelated traits that became known as the Giant three: Neuroticism, Extraversion and Psychoticism. It seems appropriate here to remember that

Eysenck (1947) presented his seminal work on personality with the aim of combining, what Cronbach (1957) referred to as the two disciplines of scientific psychology, the correlational and the experimental. There followed an estrangement between Burt (1945) and Bartlett (1951), the former advocated individual differences, factor analysis and psychometrics, while the latter was more interested in narrow experimental design. Davies (2004) followed Eysenck's example of combining correlational and experimental research, when he investigated the role of confirmatory processing in personality questionnaire responding; an advocate of Eysenck's argument, he found that "dogmatic individuals adopt more extreme attitudes and beliefs because they generate fewer contradictory reasons" (p. 641). Other approaches claiming to be instrumental in bringing about a consensus in personality structure have emerged from the development of a big-five approach (Costa & McCrae, 1992). Goldberg (1992) referred to a quiet revolution occurring in personality psychology, when an age-old scientific problem became tractable in that there was gradually an agreement about the need for the number of orthogonal factors that were necessary to account for the interrelations among English-language trait descriptors. Personality psychologists were invited to accept a specific set of five orthogonal factors and thus the big five-factor approach rapidly gained in popularity and status. As expected, there was discontent about methodology, empirical evidence, semantics and more (see Block, 1995). Nonetheless, this big-five approach has fundamentally shaped thinking and research into personality. Like Cattell's 16 personality factors and Eysenck's giant three, the big-five personality framework is based on factor analytic evidence and originated from the lexical hypothesis. Following the initial attempts to consolidate a lexical-based model, there followed substantial research efforts in search of a taxonomy of personality that could exemplify independent trait dimensions. A study by Norman

(1967) which drew upon a wide range of former studies signified that five factors were necessary and also sufficient to warrant the fundamental structure of personality (Ahmetoglu & Chamorro-Premuzic, 2013).

The big-five framework is a hierarchical model with five broad factors, representing personality at the broadest level of abstraction:

- *Openness to Experience*: the tendency to be imaginative, independent, and interested in variety versus practical, conforming and interested in routine.

- *Conscientiousness*: the tendency to be organised, careful, and disciplined versus disorganised, careless, and impulsive.

- *Extraversion:* the tendency to be sociable, fun-loving and affectionate versus retiring, sombre and reserved.

- *Agreeableness*: the tendency to be soft hearted, trusting, and helpful versus ruthless, suspicious and uncooperative.

- *Neuroticism*: the tendency to be calm, secure, and self-satisfied versus anxious, insecure and self-pitying.

The term neuroticism has also been used as ‘Emotionality’ in the HEXACO model (Lee& Ashton, 2004) and ‘Emotional Stability’ in the TIPI (Goslin, Rentfrow, & Swann, 2003), the questionnaire utilised in this study.

A range of rating instruments has been developed for the purpose of measuring the big-five dimensions. Of these, the most comprehensive is the Costa and McCrae (1992) 240-item NEO Personality Inventory, Revised (NEO-PI-R), which

permits measurement of the domains, and of six specific facets within each dimension. There are also a number of shorter instruments available in situations where the NEO-PI-R has been found to be too lengthy to complete (it takes 45 minutes). To name a few examples:

- 44-item Big-Five Inventory (BFI; see Benet-Martinez & John, 1998; John & Srvastava, 1999).
- 60-item NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992).
- 100 trait descriptive adjectives (TDA; Goldberg, 1992).
- 40-item derived from Goldberg (1992) by Saucier (1994).
- 10-item personality inventory (TIPI; Goslin, Rentfrow, Swann, 2003).

This most recent inventory (Goslin et al., 2003) was developed specifically for occasions when time is limited and researchers are faced with the choice of using a brief measure of the big five personality dimensions or omitting to measure altogether. Specifically, with reference to the TIPI, Goslin et al., (2003) propose that, although inferior to multi-item measurements, the instrument demonstrates adequate psychometric properties. As outlined above, there now exists an extensive agreement among current researchers that a personality taxonomy consisting of five major personality dimensions is acceptable. Nonetheless, it seems essential here to briefly mention one further, more recent development. The HEXACO model of personality (Lee & Ashton, 2004) builds upon the work of Costa and McCrae (1992) and conceptualises personality in terms of six dimensions. In addition to Emotionality, Extraversion, Agreeableness,

Conscientiousness and Openness to Experience, the sixth dimension is Honesty-Humility which includes sincerity, fairness, loyalty and modest versus sly, deceitful, greedy, pretentious.

Whilst there are some differences between the big five factors and those of the HEXACO model, for example, the content of the agreeableness factor, it suffices here to acknowledge that the addition of Honesty-Humility makes this particularly suitable for research studies that aim to measure ethical or pro-social behaviours, materialism or unethical behaviour (Ashton & Lee, 2008).

Although this model cannot match the large body of research evidence of the other models outlined above, specifically, the Five-Factor model, the factor of honesty-humility may offer an additional measure particularly for research into psychopathy, Machiavellianism or narcissism, areas not necessarily fully utilised in the Five-factor measures. Overall, the limitations of this model are similar to other trait-based measures in that the application of factor analysis does not always ensure replicable results, models may vary between samples due to the amount of rating or how the measure is organised. To bring this part of the review to a close, the aim has been to offer an overview of personality theory, in order to introduce this associated construct similar to the introduction of the other constructs, happiness, self-esteem and mood. It was thought to be essential to document a synopsis of each of the constructs that are utilised in this study as a foundation for the exploration of their relationships with EI in Chapter Four. In the interim, as indicated in the introduction of this part of the review chapter, EI literature shows that each of the constructs has been investigated in association with EI. Moreover, studies by Petrides et al., (2003), Salovey et al., (2002) and Schutte et al., (2002) have investigated EI and a host of constructs like mood and

happiness or mood, personality and happiness, to date there is no evidence of studies that combine happiness, self-esteem, mood and personality to investigate their possible inter-relationships with EI, whilst seeking to establish which, if any, construct will continue to be related to EI in the presence or absence of the other constructs. Furthermore, there is little research evidence of how the relationship between EI, happiness, self-esteem, mood or personality would perform in the applied field.

2.4 Summary and Conclusion

The aim of this review has been to present the key constructs pertaining to this study. This exploration was a valuable opportunity to reconsider the debate about the tension between emotions and reason, hence the inclusion of theories from classic philosophical thinking to modern neuroscience. The theories of emotion and intelligence have been outlined, as they represent the essence - and indeed the specific terms - from which EI was formed. Key issues that have influenced the development of the present construct of EI were discussed, particularly in relation to the ill-placed popularisation of EI as a result of negative influences that shaped the early investigations in relation to scientific credibility. It has been suggested (Zeidner et al., 2009) that general popular interest became separated from academic measures, acknowledging that some distrust of scientific credibility remains. A judgement was made that, at present, the debate concerns primarily the differences between ability and trait EI (Murphy & Sideman, 2006), specifically involving questions of measurement and operationalisation. Whilst ability EI operates in a unitary way across cognitive and emotional systems and is measured through maximum performance tests, the trait approach views EI as a

constellation of emotion-related self-perceptions and dispositions, which are measured via self-report questionnaires.

Nevertheless, the research into EI is at an early stage and as Zeidner et al., (2009) suggest, there is still need for a theory concerning what it means to be emotionally intelligent, and one which can identify the psychological processes that may be involved. It is recognised here that empirical evidence for both interpretations of EI has been offered once scientific efforts were separated from popular interpretations and significant progress has been achieved. However, Zeidner et al., (2009) argue that to date there seem to be more trait EI studies producing empirical support than ability EI studies. Although, in general, trait EI is studied separately from ability EI (Petrides & Furnham, 2003), differences are reflected in findings which reveal very low or non-significant correlations between the two measures (Engelberg & Sjoberg, 2004; Warwick & Nettelberg, 2004). Evidently, there are major differences between self-report and performance test methods; as mentioned earlier when discussing measurement issues, the administration method of the former requires shorter time and easier testing compared with the latter which takes a long time and more complicated testing.

This has influenced the design of the present study to employ the trait approach as has the unresolved question about the subjective nature of emotional experiences and their assessment. The development of test items along cognitive lines such as standard IQ tests may well be undermined by subjective emotional responses and scoring efforts (Petrides, 2011). The measurement of trait EI appears to be more aligned with the subjective nature of emotions as it involves self-perception and behavioural dispositions, although the final decision as to

which approach to adopt for this project methodology and scope, involved wider investigations.

Taken as a whole, research into EI is still at a relatively early stage and with the EI construct presently too new to dismiss or fully endorse, one aim of further investigation must be to consider how best to contribute to the efforts to establish a science of EI. To this end, the next chapter presents definitions of EI, and to extend present understanding of the construct, individuals' personal constructions of EI will be examined.

Chapter 3 - The Definition of Emotional Intelligence: an Exploration of Individuals' Personal Constructions of Emotional Intelligence

3.0 Introduction

This chapter considerd the attempts to define EI and demonstrates that, popular interest notwithstanding, scientific efforts to investigate and clearly define an EI construct, continue to generate substantial disagreements. In the light of the resulting interest in EI within the scientific community, this part of the study appraised current understanding of EI in the literature. Whilst recognising that a wide range of models and a plethora of definitions exist, the most influential approaches were indicated here as representative examples of the ability (Mayer & Salovey, 1997) trait (Petrides & Furnham, 2001) and mixed model (Bar-On, 1997; Goleman, 1995) approaches. The aim was to demonstrate their similarities and differences by including their respective major areas of skills (Mayer et al., 2000) for the purpose of comparison and to underline the differences between those models that view EI within the domain of measurable skills and those which view EI as emotion-related self-perceptions.

3.1 Introduction to the Study

The first study was an exploration of individuals' personal constructions of EI. This was achieved through the employment of the Repertory Grid (RepGrid) technique, which is considered to be a useful integrative device for the exploration of personal meanings (Butt & Burr, 2004). Primarily, the grid was

used in this context as a decision-making device to elicit meanings associated with EI. In order to further explore the strength of those meanings and the relationships between the ratings from the RepGrid activity, a Principle Component Analysis (PCA) then constructed a list of terms elicited from the components generated by this method, thereby integrating qualitative and quantitative methods. The primary aim of this part of the study was to produce a definition that can be compared with existing definitions in order to identify unique qualities.

3.2 Defining EI

3.2.1 Initial Attempts to Define EI

In search of a definition it is recognised that the term EI has been credited a number of times in academic literature, once even prior to the publication of *The Shattered Mind* (Gardner, 1975) and the introduction of the concept of multiple intelligences discussed earlier. This first use of the term EI, was published by Leuner (1966) who identified women who reject their social roles as a result of having been separated from their mothers at an early age, suggesting that they suffered from low EI and commonly prescribed LSD for their treatment. However, it was not made clear how she defined EI or what elements it was thought to comprise. Greenspan (1979) describes EI in somewhat vague terms as a Piagetian stage of development; he based the concept within, jointly, a Freudian and Piagetian model, but like Leuner did not offer a credible definition.

The first meaningful attempt at defining EI can be credited to Payne (1986) in a doctoral dissertation; he viewed EI as a basic intelligence where:

> “The facts, meanings, truths, relationships, etc., are those that exist in the realm of emotion. Thus, feelings are facts . . . The meanings are felt meanings; the truths are emotional truths; the relationships are interpersonal relationships. And the problems we solve are emotional problems, that is, problems in the way we feel”. (Payne, 1986, p. 165).

The problem with this definition is that it is unclear what was meant by ‘felt meanings’ and what sort of truth ‘emotional truth’ may be. From the evidence above, it appears that the term EI was employed in an academic context a number of times with little effort to define the term more robustly or indeed building an area of scholarly interest around the concept. It may be timely here to acknowledge an earlier mention of the term Emotional Quotient (EQ) usually credited to Bar-On (1997). Beasley (1987) also uses the term ‘emotional quotient’. He defines EQ as the ability to feel, but concluded that there were too many factors involved to quantify the term in a meaningful way. These attempts at defining EI changed with the onset of the first development of the concept as an empirical research area because of a study by Mayer and Salovey (1993). They developed the notion of EI as an intelligence and formally defined EI as a construct. Similarly, other empirical research aimed to define EI as a purely personality-like trait (Petrides & Furnham, 2001) or as a combination of the two domains (Bar-On, 1997). Despite this progress, efforts to create an appropriate definition were often in conflict with efforts to operationalise EI.

3.2.2 Formal Definitions

The first formal definition of EI was offered by Mayer and Salovey (1997), who were keen to connect intelligence and emotion; the former was viewed as thinking intelligently about emotions, the latter as making thinking more intelligent.

Their definition hones in on an ability to perceive, access and generate emotions, to facilitate thought and to understand, reflect and regulate emotions in an effort to promote emotional and intellectual growth.

To demonstrate the ways in which EI is defined by a number of different approaches, listed below, for the purposes of comparison, are the major areas of skills that form the core of the overall definitions, beginning with the ability model shown in table 3.1.

Table .3 - Overview of the ability model (Mayer et al., 2011)

Specific Skills	Examples of Specific Areas
Perception and expression of emotion	Identifying and expressing emotions, feelings and thoughts in own and in other people's art, work
Assimilating emotion in thought	Using emotions to prioritise thinking, generating emotions to aid judgement and memory
Understanding and analysing emotion	Labelling emotions (including complex), recognising simultaneous feelings, understanding relationships
Reflective regulation	Staying open to feelings of emotion

(Adapted from Mayer et al., 2011)

The resultant definition, notably published in the *Handbook of Intelligence* (Mayer, Salovey, & Caruso, 2000) defined EI as: "the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others". (Mayer et al., 2000, p. 396).

Other attempts to define EI are viewed by Mayer et al., (2001) as being vague, insisting that their own continuous efforts to present a clear and scientifically useful definition clearly reflects the intersection of emotion and intelligence. Their perpetual aim has been to demonstrate that EI should be viewed as belonging to a class of 'intelligences' that includes practical, social and personal intelligences, referred to as the 'hot' intelligences by Mayer and Mitchell (1998) so called because they operate on those cognitions that deal with matters of personal and emotional importance.

When Goleman (1995) developed his theoretical framework for the delivery of EI to enhance programmes in education and at work, he was inspired by an early publication (Mayer & Salovey, 1990) on the forthcoming ability model. Goleman redefined his own interpretation of EI to include self-awareness, impulse control, delaying gratification, and handling stress and anxiety. Hence, the model has been described as a mixed model. The view that EI may account for differences between personal success and failure led Goleman to focus on EI as comprising a wide array of competencies and skills in managerial performance, measureable by multi-rater assessment and self-assessment. The specific areas of skills embraced within this model are shown in Table 3.2.

Table .4 - Overview of the mixed model 1 (Goleman, 1995)

Major areas of Skills	Specific Examples
Knowing one's emotions	Recognising a feeling as it happens, monitoring feelings moment by moment
Managing emotions	Handling feeling appropriately, able to soothe oneself, shake off anxiety, gloom, irritability
Motivating oneself	Marshalling emotions to achieve goals, delaying gratification, stifling impulsiveness, getting into 'flow' state
Recognising emotions in others	Empathetic awareness, attuned to what others need or want
Handling relationships	Interacting smoothly, managing emotions in others

(Adapted from Goleman, 1995)

The overall definition that emerged influenced not only future academic studies, but also created a less credible but popular explanation of abilities called EI, which included self-control, zeal and persistence, and the ability to motivate oneself. As Goleman (1995) stated "There is an old-fashioned word for the body of skills that emotional intelligence represents: character" (Goleman, 1995, p.28). This last statement was less well received in the academic world than in the popular press because it was not substantiated by a definition or indeed scientific evidence. Thus, it contributed to an emerging criticism of Goleman's academic work but not its popularity (Mayer & Salovey, 2011).

Nevertheless, Goleman (1995) provided a useful initial framework for what defines EI, which centred on knowing and managing one's own and others' feelings, motivation, creativity and high performance. Although Goleman's (1998) notion of EI led to a potentially useful definition and inspired a host of academic

and popular studies, not all of his claims had empirical backing. For example, his claim that EI could be defined as having higher predictive validity for performance at work than traditional measures of intelligence, has yet to be substantiated by empirical evidence (Matthews et al., 2002). Akin to Goleman's definition, Bar-On (1997) used clusters of personality traits when defining EI as an array of non-cognitive capabilities, skills and competencies summarised in table 3.3.

Table .5 - Overview of the mixed model 2 (Bar-On, 1997)

Major Areas of Skills	Specific Skills
Intrapersonal skills	Emotional awareness, assertiveness, self-regard and actualisation, independence
Interpersonal skills	Relationships, empathy, social responsibility
Adaptability scales	Problem solving, reality testing, flexibility
Stress-management scales	Stress tolerance, impulse control
General mood	Happiness, optimism

(Adapted from Mayer & Salovey, 2011)

Bar-On (1997) created a definition which embraces the notion of measurement and links it to the original skills list in which EI is viewed as an array of non-cognitive capabilities, competencies, and skills. These influence people's ability to succeed in coping with environmental demands and pressures (Bar-On, 1997). This definition reflects the idea that cognitive intelligence and EI contribute equally to a person's general intelligence and subsequent success in life, a view that is commonly expressed in mixed model approaches.

As discussed, the interest in EI grew exponentially and with it the number of definitions and their associated models. This temporarily blurred the line between scientific investigations and the popular use of EI (Matthews et al., 2009) and led to some criticism. As Daus and Ashkanasy (2003, pp. 69-70) assert, “These models have done more harm than good regarding establishing EI as a legitimate, empirical construct”. Critical reviews of EI studies did include a more conciliatory argument that the operationalisation of any psychological construct should include, in the first instance, the process of defining its sampling domain including the facets or elements that the construct should encompass (Petrides & Furnham, 2001). The first systematically derived sampling domain of EI was based on a content analysis of early models and related constructs, for example, alexithymia, empathy, affective communication and emotional expression. Hence Petrides and Furnham (2001) applied factor analysis in the forming of their initial elements of EI, which were accompanied by clear explanations. The overall aim was to exclude those elements present in only one specific conceptualisation and to include those elements that were common in multiple models. The facets representing specific areas of skill reflected Petrides and Furnham’s, (2001) desire to clearly ring-fence and define what has become known as Trait EI presented here in figure 3.1.

Adaptability	Emotion management
Relationship skills	Stress management
Assertiveness	Impulsiveness
Self-esteem	Trait empathy
Emotion Regulation	Trait happiness
Self-motivation	Trait optimism
Emotion Expression	Emotional appraisal (self and others)
Social competence	

Figure .1 - The sampling domain list of the trait model (Petrides & Furnham, 2001)

Embedded in Petrides and Furnham's definition is the method by which the list of skills or facets was constructed: "a constellation of emotion-related self-perceptions and dispositions, assessed through self-report. The precise compositions of these self-perceptions and dispositions varies across different conceptualisations with some… being broader than others" (Petrides & Furnham, 2003, p. 40).

Thus, trait EI, also referred to as trait self-efficacy, is now commonly presented as a constellation of emotional self-perceptions and dispositions. These perceptions and dispositions are assumed to be located at the lower levels of personality hierarchies and relate to individuals' perceptions of their own emotional abilities (Petrides & Furnham, 2003). This is markedly different from the ability based model which refers to actual abilities as demonstrated in performance based

measures. Hence cognitive ability is the key construct in the ability based model, whereas personality plays a similarly central role in trait based models. Whilst the definitions outlined above may be distinctly different from each other, each has benefitted from research findings that have led to a richer sense of what EI is, how it can be measured and what it can predict (Mayer et al., 2011).

3.3 Rationale for Conducting the Study

3.3.1 Introduction

It is recognised above that the wealth of information produced to date has not always generated empirical evidence or academic credibility. It can therefore be argued that there is sufficient evidence of a need for further investigations and debate around the EI construct and its definition. When choosing the method for this investigation, the need for generalisation and hypothesis testing was considered (Tinsley & Tinsley, 1987). Within the context of this investigation, however, conclusions were restricted to the sample collected and generalisation of the results was not sought. In a search for further clarification as to how individuals may define EI this study employed the RepGrid technique and PCA. By bringing together the benefits of qualitative and quantitative approaches, it was expected that the results will achieve some validity. The background and recent developments of the RepGrid analysis were briefly explored to demonstrate the continuity of Kelly's (1963) idea of 'the person as a scientist', from early attempts of computer assisted programmes to the present use of technology in the analysis of this data.

3.3.2 The RepGrid Method for Data Collection

The RepGrid is considered to be particularly suitable for this study because it can be applied in many variations and in different issue areas of investigations (Fransella & Bannister, 1977). Hence, this study utilises the RepGrid method primarily as a technical tool for gathering data whilst recognising that more often than not the method is applied in the clinical or therapy fields. As a standalone method, it can capture the dimensions and structure of personal meanings; in this case, the method will elicit a range of relevant constructs associated with EI in a particular context. A number of methods for data collection were considered, primarily informative, semi- and fully structured interviews and psychometric testing. The RepGrid was chosen because of its precision in identifying meaning and describing a person's own constructs (Fransella, 2005). Unlike other methods of recording interview data or utilising a researcher's own constructs the repertory grid technique is considered to be what Kelly (1955) referred to as constructive alternativism, namely, when different people have different ways of construing the same thing or one person may construe the same thing differently or on separate occasions (Kelly, 1991).

The RepGrid technique is also considered to be a suitable method for the detailed identification of personal and interpersonal systems of meaning related to the EI construct and the need for systematic descriptions and exchange of views. The strengthening of meanings is provided by the rating system, which Jankowicz (2004) suggests is more than simply a set of rating scales of personal constructs upon which ratings are carried out; he suggests that a repertory grid is "a form of structured interviewing, with ratings (or without), which arrives at a

precise description uncontaminated by the interviewer's own viewpoint" (Jankowicz 2004, p.14).

3.3.3 The Background Relevant to the RepGrid Development

Kelly (1955) developed the repertory grid technique in the mid-1950s; it was first known as the Role Construct Repertory Test based on his theory of human understanding, the Personal Construct Theory. Kelly's theory proposed the image of the 'person-as a scientist', which emphasises the ability to attach meaning to how humans understand their lives by creatively formulating contrasts; a system of interconnecting meanings that can define perceived relationships to others. Using dichotomous scores, Kelly (1991) suggested the first system for summarising grid data, which involved a form of non-parametric factor analysis undertaken by hand.

The repertory grid technique became a widely used tool for exploring personal and interpersonal relationships in the fields of mental health, counselling and personal development. Probably the most interesting feature is the combination of idiographic assessment to explore unique dimensions of individuals' perceptions of their world and nomothetic research to explore general patterns across groups (Warren, 1998). The technique allows for the elicitation of a great deal of information as to how participants construe the elements used. The constructs are seen by Kelly as being bipolar to represent the notion of awareness of similarities and differences; this differentiates the term construct from concept. The author viewed the opposite of the term concept as prefixing 'not' to an existing term, whereas the opposite of a construct would require a relevant contrast within a bi-polar dimension; therefore, the meaning is not

determined by its own poles but by the relationship to other meanings (Fransella, 2003).

3.3.4 Recent Development in the Application of the RepGrid Technique

More recently, users of the RepGrid technique have tended to extend the basic method of eliciting constructs to include the rating or ranking of elements in the resulting construct dimension, thus allowing for a wider range of analyses. The most basic analysis when exploring relationships within the grid involves the investigation of relationships between elements or constructs. This continues to be a popular tool as part of counselling or interviewing to create collaboration and explore relationships for therapeutic reasons (Fransella, 1995). However, in this study a method is sought that explores the relationships between key elements of EI with the advantage of ranking that can support the application of a statistical analysis (Jankowicz, 2004).

Cluster analysis was considered as a useful technique for highlighting the relationships on the grid as they become visible at a glance. Similar to Factor Analysis (FA), it involves the search for unitary elements that account for the variability observed in the data. FA also allows for the measurement of variables which cannot be measured directly, a technique which identifies groups or clusters of variables that are related to each other. Whilst it attempts to explain which of the different variables is driven by each of the underlying variables the closely related Principal Components Analysis (PCA) has been recognised as a preferred option for the analysis of the ranked RepGrid data (Jankowicz 2003). Similarly, Field (2009) concludes that PCA, is a psychometrically sound

procedure which is conceptually less complex than FA, both being linear models with differences primarily emerging from their calculations.

PCA is considered to be particularly expedient for the analysis of this data because it works by examining the variability in the grid, identifying patterns and representing the differences between elements that carry special meanings. SPSS is utilised to complete the PCA and this chosen technique will briefly be explored closer by firstly looking at the question whether a factor is important enough to be retained; this depends on the criteria for extracting rotation, factors and eigenvalue (Field, 2009). In the analysis not all factors are retained and to ensure that the method employed generates the most valid extraction of factors, the Kaiser's criterion of factor extraction is used in this study. To ensure that factors which are statistically important are retained, only those with a latent root greater than 1 are considered as common factors. This criterion is based on Kaiser's (1960) suggestion that the eigenvalue represents the amount of variation that is explained by the factor. Thus an eigenvalue of 1 represents a substantial amount of variation. Scree plots for this data provided a valuable aid for plotting the eigenvalue against the component number, the graph is characterised by a specific shape, which is a sharp descent in a curve followed by a tailing off and the cut off point for the selection of a factor lies at the point of inflexion of this curve. It is also expedient here to mention that Cattell (1966) demonstrated this method as being the most reliable for factor extraction of 20 and more variables with only a very small possibility of invalidation for 20 variables and below.

Cattell (1966) had suggested that the decision as to how many factors to retain relied on substantial as well as subjective considerations and needed to include the results from rotation. To calculate the loading of the variable on each factor,

factor rotation allows for the discrimination between factors. Of the two types of rotation available, orthogonal rotation is most appropriate because factors remain independent or unrelated, whereas oblique rotations identify correlational factors. There are a number of methods of orthogonal rotation available, whereas Quatimax rotation aims to maximise the spread of factor loadings for a variable across all factors, Varimax aims to maximise the dispersion of loadings within factors, and Equamax is a hybrid of the two and was reported to behave erratically (Tabachnick & Fidell, 2007). Field (2009) recommends the use of Varimax as it preserves a good solid approach which simplifies the interpretation of factors producing the most solid configuration of factors.

3.3.5 Theoretical Considerations

The theoretical considerations for the approach of this study are anchored in constructivist psychology, which embraces the idea of how human beings create systems of understanding experiences and the world they live in. It is recognised here that there exist a variety of ‘constructivism’ (Neimeyer & Raskin, 2001), personal construct psychology, radical constructivism, and social constructivism (Raskin, 2003). The prime interest of this study is personal constructivism also referred to as the personal construct theory (PCT: Kelly, 1955). It is this theoretical premise that forms the basis upon which the appli cation of the PCT in form of the RepGrid analysis is built.

Whilst an outline of the application of the RepGrid procedure has been mentioned it seems prudent here to acknowledge that there are a range of qualitative methods available for analysis, these range from an analysis of simple relationships between elements and constructs, to analysing more than one grid,

content analysis and the exchange of grids. The simple method of frequency counting of elements or constructs allows for the identification of common trends from a sample of participants particularly at the beginning of a study. The procedure of laddering or pyramiding forms a critical part of this approach. Whilst not extensively utilised in this study, it is essential to recognise laddering as an in-depth interviewing technique that has its roots in Kelly's (1955) personal construct theory. Hinkle (1965) had developed the technique as a means of modelling people's belief structures in a systematic way, establishing subordinate personal constructs. Although well-established in therapy, the technique has also spread to, for example, marketing and organisational management to name a few. Within the context of this study, which aims to gather information about a specific term, the procedure allows for the acquisition of an accurate understanding of an interviewee's construct by presenting 'why' and 'how' questions about the emergent pole of the original construct.

Equally relevant is the procedure for analysing more than one grid, for example, content analysis which pools all constructs and then categorises them according to the meaning they express. 'Bootstrapping' can either refer to core-categorisation, generic content analysis or reliability. These techniques do not however, make any use of the ratings, which becomes possible through the application of Honey's Content Analysis (1979); this allows for a fuller understanding of individuals' personal understanding of a given topic. The final procedures open to qualitative analysis incorporates investigations into personal values and are related to mental frameworks constructed by individuals and include prioritisation and change. These procedures offer analysis beyond the basic level and should be acknowledged here in an effort to demonstrate the breadth and value of this methodology.

3.3.6 Summary of the Rationale

This section has discussed the reasons for selecting the RepGrid method for data collection in its aim to define EI; the technique is particularly appropriate as a method for exploration as there is no need for generalisation and hypothesis testing. As a stand-alone methodology, it captures the dimensions and structure of personal meanings and is thought to be particularly suitable for this study because the strength of personal construct psychology together with RepGrid analysis lies in finding tacit knowledge and attitudes in a structured and manageable manner. Thus, this method allows the lay person to construct a perception of EI independent also of expert knowledge, for example, researchers or participants who were specifically informed of the subject area as is evident in the study of EI, where experts were largely assumed to provide unequivocal standards for its development. The academic knowledge particularly of the psychology of emotion and intelligence can plausibly be considered as a criterion for expertise in the formation of this construct. Nonetheless, such knowledge does not necessarily include an understanding of how people give meaning to their experiences and how they relate to the world around them (McAdams, 2001). Indeed, there may well be common psychological phenomena that hold very different meanings for individuals and the goal of this part of the research is to complement existing expert knowledge with lay perceptions of EI, bearing in mind that studies into perception of intelligence had shown that there were no significant differences between lay persons and experts (Sternberg et al., 1981). A number of options for data analysis were explored and PCA was identified as the most suitable for statistical analysis, there is no need for actual ownership of personal meanings beyond the theoretical understanding of the relatively new concept EI. The procedure depends on additional assumptions about meanings

attached to the number of ratings and PCA can extract new layers of principal factors of constructs most efficiently.

The bridging of qualitative and quantitative methodology allows for the application of a combination of techniques when analysing the data. In addition to the statistical analysis of rated information about EI, similarities in the meaning of constructs can be identified by inspection, investigating shared meanings and frequency counting, methods that have been mentioned here because they are useful tools applied in the process of RepGrid analysis. Moreover, by utilising this mixed method approach the depth and breadth of issues regarding this study can be considered at the beginning of the research process; in particular it can help to clarify the formulation of the research problem and the most appropriate ways in which problems or aspects of problems may be theorised or studied. “With a single method the researcher is not forced to consider these issues in quite the same way” (Brannen, 1992, p.32).

3.4 Methodology

3.4.1 Design

The RepGrid design aims to capture the structure and dimension of personal meanings, which takes place in a one hour session designed to elicit personal constructs. Participants are required to compare their perception of the behaviour of two role models, one positive and one negative, with themselves as they perceive themselves to be and as they would like to be. The theoretical considerations for this design are based on a constructivist perspective in that it is believed that reality is constructed by the individual and not presented by society.

3.4.2 Participants

Ten participants completed the RepGrid activity, all were female and the age ranged from 19 to 25, the mean age was 20.9. An opportunity sampling method was used and participants were recruited from first year psychology students at the University of Wolverhampton via the participant pool. Participants received credits for their time.

3.4.3 Materials

3.4.3.1 Information for Participant

The information sheet (Appendix 3.1) included a brief explanation about the method as it was adapted from the initial design by Kelly (1955). Participants were informed that the process will involve the need to recognise their own thoughts about EI through the identification of good and poor role models and the awareness of themselves at present and future. An example of the identification of elements and constructs was provided and the rating system explained. The informed consent sheet (Appendix 3.2) was attached to the information sheet and participants were required to sign this before participation can commence.

3.4.3.2 Element Sheets

To support participants in their efforts to identify elements of EI, support sheets naming a comprehensive range of possible elements associated with EI were presented briefly to participants. The purpose of this task was to prompt participants to focus on the subject in hand; this is not to be likened to the use of flashcards applied in the educational setting with the intention to improve learning

(e.g. the Leitner system, 1974). As an aid to introducing EI it does not compromise but rather assist participants in developing their personal definition therefore the time for each presentation is one second only and does not involve repetition. It was anticipated that the 34 statements presented with such rapidity would not lead the participants to be influenced in their perception of EI.

The element sheets comprised a broad range of descriptions that were generated from a wide range of early terms that were created in varied attempts to formulate a definition. So as not to prejudice participants' choice, care was taken to include descriptions from varied model orientations, notably Bar-On (1997), Goleman (1995), Mayer and Salovey (1997), Petrides and Furnham (2001), Schutte et al., (1998). The 34 statements were constructed in a language that was clear, easy to understand and not misleading. Care was taken not to duplicate existing terms. The element sheets were furthermore rearranged in sequence for each individual recruitment session and the content is presented in figure 3.2.

Controlling my feelings	Censoring my feelings
Managing feelings	Having good relationships
Managing difficult relationships	Having fulfilling relationships
Feelings of sympathy	Feeling good about others
Putting myself in other peoples' shoes	Being happy about self
Happy about others	Sharing happy feeling
Being socially aware	Getting on with people
A good communicator	Sharing optimism with others
Looking at situations optimistically	Having a deep feeling of hope
Understanding others	Knowing how others feel
Feeling how others feel	Understanding others
In control of others' feelings	Sharing motivation
Interpreting feeling correctly	Managing emotional situation
Changing behaviour to a situation	Adapting to new situation
Adapting to changing relationships	Knowing how to move on
Motivating myself	Sharing motivation
Knowing how to move on	Showing my feelings

Figure .2 - List of element sheets

3.4.3.3 Repertory Grid Steps for Completion Sheet

The 10 steps (Appendix 3.3) necessary for the completion of the repertory grid are listed to support participants.

3.4.3.4 Repertory Grid Completion Sheet

The completion sheet (Appendix 3.4) provided participants with ten opportunities for the identification of similarity and difference constructs. The rating system from 1-6 provided the system for scoring that forms the basis for analysis. The relevant headings of the completion sheet is summarised in table 3.6.

Table .6 - Headings of completion sheet

Repertory Grid: Participant Code: Sex: F M (please circle)

Date:

Constructs Similarity Pole	*Elements*						***Constructs Difference Pole***
	Good Role Model	*Poor Role Model*	*Good Role Model*	*Poor Role Model*	*Me as I am*	*Me as I want to be*	

3.5 Procedure

During recruitment, participants were informed that the research concerns the exploration of the understanding of the concept of EI. They were presented with the information sheet (Appendix 3.1) and invited to familiarise themselves with the content before signing the informed consent sheet. The information sheet includes the example of ‘optimism’ as a facet of EI and prospective participants were encouraged to think of two people who are optimistic and two who are pessimistic and then to note the behaviours they have in common and the

behaviours that are different; they were then required to compare themselves with those people as they view themselves presently and as they would like to be in the future.

The system of rating was explained and participants were assured that they would be able to withdraw any time, should they wish to. They were informed that the individual session was timed for 60 minutes and that they were expected to complete the activity within the given time. To ensure that the techniques for the completion of the Grid were appropriately executed and the design reflected a realistic timeframe for individual sessions, the session was piloted with two volunteers.

At the beginning of each individual session the element sheets were presented in short succession and the *Steps for completion sheet* to assist the completion process. Participants were required to think of two people who they had known in the past or know now to represent good and poor role models of EI. For each row, participants had to decide what characteristics the two marked ‘O’ had in common that made them different from the third, also marked ‘O’.

Then, the two people who are similar were identified by over writing the ‘O’ with an ‘X’ and their similarities were noted in the Similarity Pole. The differences between the two people and the third person were noted in the Difference Pole. Once each row had been completed, participants were required to identify desirable attributes or characteristics in the similarity and difference column and finally rate every person in each row on a scale of 1 (low) to 6 (high) according to how well they demonstrated the desirable attribute. An example of the activity is presented in table 3.7.

Table .7 - Example of completed activity

Repertory Grid: Participant Code: Sex: F M (please circle)

Date:

Constructs Similarity Pole	Elements						**Constructs Difference Pole**
	Good Role Model	Poor Role Model	Good Role Model	Poor Role Model	Me as I am	Me as I want to be	
Warm,√ helping others, √ Happy √	O X 6	O 1				O X 3	In control of feelings, √ managing self √

Throughout the session, field notes were kept; although unamenable to statistical analysis such interview data was considered to be beneficial in selecting comments from participants so as to add more contexts to their similarities or differences.

3.6 Results

3.6.1 Analysis

The results will be presented for each participant firstly in the form of a statistical table detailing all findings. Utilising SPSS, the data were analysed by means of a principal components analysis with varimax rotation. A number of components with an eigenvalue greater than 1.0 were found and scree plots for this data provided a useful visual aid for plotting the eigenvalue against the component number. The findings generated from this analysis are complemented by the

inclusion of qualitative data précised from the field notes in an attempt to provide more in-depth results.

Table .8 - Analysis of factors by each participant

Definitions Variance by each Participant	Name of Factor Variables Eigenvalues & % of Variance		R	Total %
Participant 1	Factor 1	Emotional Control	.97	
	Eigenvalue = 5.4	Optimism	.96	
	54.69% of variance	Structured Thinking	.56	
		Empathy	.55	54.69%
		Caring	.54	
	Factor 2	Social Awareness	.95	
	Eigenvalue = 2.6	Awareness of Others	.89	
	26.78% of variance	Empathy	.76	81.47%
		Doing Best for Others	.63	

Overall, the highly influential and predominant elements in the behaviour of the first participant reflected strong emotional control, with an optimistic appreciation for structured thinking whilst being empathetic and caring. The secondary behavioural element, although less influential, supports behaviour related to social awareness and awareness of others and again empathy and caring.

Thus it can be deduced that this participant perceives people with good levels of EI as being able to be in control of their own and others' emotions, with an ability to understand and share the feelings of others whilst applying structured thinking optimistically in a caring manner. Complementing this analysis is the information

gleaned from comments collected throughout the session. The participant who came from a small family chose a teacher and line manager as a good role model and a friend and colleague as a poor role model.

Participant 2	Factor 1	Honest	.96	
	Eigenvalue = 7.1	Happy	.96	
	71.79% of variance	Effective Communication	.96	
		Self/others' Awareness	.88	71.79%
		Empathy	.83	
		Humour (appropriate)	.57	
		Emotion Management	.48	
		Friendly outgoing	.41	
	Factor 2	Optimism about Self	.91	
	Eigenvalue = 1.6	Accepting	.84	87.90%
	16.10% of variance	Emotion Management	.76	
		Friendly Outgoing	.75	
		Humour	.73	
		Self-awareness	.45	

For the second participant, the predominant behavioural element identifies honesty, happiness and effective communication as being highly influential. Whereas awareness of others and empathy was formerly listed as a secondary element, here they form part of the highly influential behaviours together with self-awareness. Appropriate humour, emotion management and outgoing friendliness were also recognised as predominant behavioural elements with optimism, accepting, management, friendliness, humour and self- awareness also as secondary behavioural elements. This would suggest that participant two perceives behaviours associated with EI as honesty and happiness with effective communication skills. An individual's awareness of themselves and others allows

them to be empathetic and apply humour in their management of emotions in a friendly, optimistic yet accepting way. The supplementary information gathered from field notes shows this participant to come from a large family who was utilised as good and poor role-models, in form of two aunts, a brother and a cousin.

Participant 3	Factor 1	Empathy	.93	
	Eigenvalue = 6.7	Giving	.90	
	66.77% of variance	Emotional Stability	.90	
		Self-critical	.84	66.77%
		Accepting	.72	
		Happiness	.45	
		Relaxed/laid back	.35	
		Carefree	.32	
	Factor 2	Optimism	.90	
	Eigenvalue = 1.7	Relaxed	.82	
	16.73% of variance	Happiness	.80	83.49%
		Carefree	.80	
		Accepting	.39	
		Emotional Stability	.37	
		Giving	.37	
	Factor 3	Outgoing	.95	
	Eigenvalue = 1.0	Accepting	.57	
	10.10% of variance	Carefree	.50	93.60%
		Relaxed/Laid back	.30	
		Optimism	.30	

The third participant identifies empathy as the most influential behaviour, followed by giving and emotional stability. Self-critical behaviour is identified solely by this participant together with being relaxed and laid back. Accepting, happiness and feeling carefree also form part of the highly influential elements. The less influential elements in behaviour adds optimism and identifies a third and less

influential set of elements in behaviour comprising outgoing, accepting, relaxed and optimistic. The perception of EI related behaviours of this participant differs from the remaining perceptions in that it includes self-critical and relaxing. This would suggest that overall this participant perceives people with good EI levels as having high levels of empathy, being accepting of self with emotional stability whilst being happy, relaxed and carefree, yet self-critical.

Comments throughout the session revealed that this participant who came from a small family experienced difficulties with completing the exercise. This became evident because of repeated questions and a need for re-assurance. It is not clear if the behaviour displayed throughout indicated academic or personal uncertainty. The chosen good role models were from the family and the poor role models were lecturers.

Participant 4	Factor 1	Life balance	.96	
	Eigenvalue = 8.1	Success / Achievement	.96	
	81.13% of variance	Exceptional being	.96	
		Relationship (skills)	.94	81.13%
		Optimism	.92	
		Realism	.85	
		Hard working	.85	
		Knowledge & life experience	.82	
		Adaptability & flexibility	.82	
	Factor 2	Aware of others	.98	
	Eigenvalue = 1.0	Realism	.46	
	10.46% of variance	Hard working	.46	91.60%
		Knowledge & life experience	.34	
		Adaptability & flexibility	.34	

The fourth participant introduces a perception unlike previous participants; the predominant behaviour embraces life balance, success and achievement with

being exceptional. Also highly influential in behaviour are relationship skills, optimism with a realistic and hardworking ability to be flexible and adaptable whilst having knowledge and life experience. Whilst the secondary behavioural elements add an awareness of others, this participant's perception can be summarised as behavioural elements that describes an exceptional and ambitious person who is able to have good relationships, works hard and uses knowledge and life skills in an optimistic, flexible and adaptable way.

This participant not only adds behavioural descriptors unlike the remaining participants, she also has her own family and chose mothers as good role models with teaching staff and colleagues as poor role models. This choice may have been influenced by family closeness and wishing to be more like her mother's whilst viewing the poor role models as being outside the family, implying, for example, that success, achievement and being exceptional is represented by the role of a mother.

Participant 5	Factor 1	Emotional Control	.98	
	Eigenvalue = 5.8	Looking for best in others	.93	
	56.84% of variance	Understanding others	.90	
		Verbal skills/confidence	.83	56.84%
		Self-confidence/verbal	.66	
		Assertiveness	.46	
		Empathy	.43	
	Factor 2	Empathy	.87	
	Eigenvalue = 2.5	Assertiveness	.74	
	24.90% of variance	Confidence	.64	81.74%
		Relationship skills	.58	
		Verbal skills	.32	

Participant five like the first participant identifies emotional control as highly

influential in behaviour together with a positive and understanding approach to others with assertiveness and confidence yet empathy. Whilst relationship skills are viewed as a secondary behavioural element, participant five perceives people with good levels of EI as being confident and assertive with behaviour aspects related to substantial emotional control with a caring approach to others.

Whilst this participant did not declare any siblings or parents, examples of good role models were selected from the family via a grandmother and aunt and poor role models were chosen from a group of friends.

Similar to the former participant, the good role model was selected from the immediate family reflecting closeness with regard for confidence, assertiveness and empathy. The poor role models were also selected from a wider social group which indicates the wish to be more like the women in the family.

Participant 6	Factor 1	Listening skills	.94	
		Non-judgmental	.93	
		Perception effective	.93	
	Eigenvalue = 7.6	Understanding of others	.92	
	75.93% of variance	Understanding others	.76	
		Empathy	.62	
		Respect	.46	75.93%
		Verbal skill	.39	
		Emotion control	.34	
	Factor 2	Adaptability	.97	
		Emotion control	.92	
	Eigenvalue = 1.6	Respect	.83	
	16.00% of variance	Verbal skills	.80	
		Empathy	.74	91.93%
		Understanding others	.50	
		Perception effective	.36	
		Non-judge mental	.36	

The highly influential and predominant elements in behaviour of the sixth participant is listening skills at the outset, followed by behaviours concerned with care and empathy of others together with effective perception, respect and a good level of verbal skills and emotional control. The secondary behavioural elements mirror the predominant ones with the addition of adaptability. Thus a person with this level of EI is perceived as applying good levels of listening and verbal skills in the respectful, non-judgemental understanding and empathy extended to others whilst being able to exercise emotion control.

Field notes indicate that this participant came from a large family that was used to identify poor role models via an aunt and cousin; a former teacher and present lecturer were recognised as good role models.

Participant 7	Factor 1	Understanding others	.98	
		Listening to others	.97	
	Eigenvalue = 6.4	Emotion management	.94	
	64.23% of variance	Love	.94	
		Understanding others	.94	64.23%
		Generosity	.79	
		Empathy	.53	
	Factor 2	Empathy	.78	
		Generosity	.55	
	Eigenvalue = 1.9	Emotion management	.30	
	19.09% of variance	Love	.30	83.32%
		Understanding others	.30	
	Factor 3	Emotion awareness	.89	
	Eigenvalue = 1.1	Emotion honesty	.84	
	10.09% 10.94	Open/honest emotion	.44	94.28%

For the seventh participant, the predominant behavioural elements were also centred on the understanding of and listening to others. This participant was also the only one to identify love and generosity; whilst emotion management is viewed as highly influential in behaviour, it can also be found as a secondary behavioural element together with love, empathy, generosity and understanding others. As participant three, this participant also identifies even less influential elements in behaviour adding emotion awareness, honesty and openness. This participant perceived people with good levels of EI to display behaviours that relate to care for others whilst managing own emotions with empathy, love and generosity. Notable but less influential were those behaviours related to emotion, awareness and openness.

Supplementary information gathered from field notes showed that the participant came from a relatively large family but information about good and bad role models was not forthcoming.

Participant 8	Factor 1	Optimism	.95	
	Eigenvalue = 5.5	Ability to learn	.94	
	55.42% of variance	Humour	.89	
		Openness with feelings	.54	55.42%
		Self-respect	.49	
	Factor 2	Organising academic skills	.82	
	Eigenvalue = 2.5	Open about feelings	.79	
	24.7% of variance	Organise life	.70	80.14%
		Self-respect	.69	

For participant eight, the predominant behavioural element is identified as optimism and the ability to learn, a sense of humour and openness with feeling

and self-respect, the latter two are also identified as secondary behavioural elements together with organisation skills for life and academic work. Thus a person's EI behaviour is perceived as displaying an optimistic learning and organisational ability with a sense of humour, self-respect and being open about feelings. Field notes did not reveal any information about family background and the good role models were accessed via the lecturing staff at the university whereas poor models were drawn from friends.

Participant 9	Factor 1	Focus on task	.97	
		Trust from others	.96	
	Eigenvalue = 7.1	Show love	.94	
	71.46% of variance	Emotion expression	.92	
		Dependability	.91	71.46%
		Adaptability	.90	
		Trust self	.90	
	Factor 2	Objective thinking method	.90	
	Eigenvalue = 1.6	Open to ideas	.87	88.04%
	16.58% of variance	Dependability	.34	

Participant nine identified the highly influential elements in behaviour as skills related, that is the ability to focus on a task together with self-trust and trust in others whilst showing love and expressing emotions together with dependability and the ability to adapt. As a secondary behavioural element objective thinking and open to ideas is added. This would suggest that this participant viewed people with higher level EI as having valuable behaviours for a successful life plan that includes trust, dependability and clear thinking and new ideas whilst valuing openness and love. Field notes revealed that this participant came from a family with strict rules and mother and aunt were selected as good role models

whist a couple of friends were presented as poor role models. The strict family rules may well have influenced the choices of role models. They may indicate a high respect for and the wish to be like mother and aunt, even wishing to take their role in the family. The choice of poor role models may indicate low respect for the behaviour of friends outside the family and the wish not to be like them.

Participant 10	Factor 1	Emotional Management	.94	
		Open management	.93	
	Eigenvalue = 6.6	Good listening skills	.92	
	66.52% of variance	Emotional stability	.87	
		Emotional expression	.85	
		Optimism	.79	66.52%
		Happiness	.44	
	Factor 2	Happy optimism	.86	
	Eigenvalue = 2.2	Happiness level	.86	
	22.65% of variance			89.18

The tenth participant behaved different from the remaining participants, she was guarded in her responses and therefore no private information is available beyond the knowledge that she chose the good role models from the lecturing staff whilst poor role models were chosen from her colleagues. The participant presented with a number of elements commonly mentioned in EI literature as being highly influential in behaviour. Thus, emotional management is the strongest followed by open management, good listening skills, emotional stability and emotional expression yet optimistic and happy. This participant appears to perceive someone with high levels of EI as an optimistic person who manages with openness underpinned by good listening skills and emotional stability. As the secondary behavioural elements highlight happiness and optimisms, happiness seems to be perceived as being closely related to EI.

3.6.2 Summary of Analysis

The findings of this analysis indicate that EI is perceived by this cohort of lay participants as being governed by a number of predominant factors which are highly influential in behaviour and secondary behavioural elements which are less influential.

The decision as to which behaviours are more relevant than others for the purpose of creating a definition, the individual strengths of factors were evaluated together with the number of times each was identified by sorting them under factor 1 and 2. For example, emotional management and emotional control were listed four and three times respectively as predominant and twice and once as secondary elements.

Following the detailed exploration of utilising PCA in the analysis of RepGrid data as part of the theoretical considerations presented earlier, the initial process of creating a definition involved the close examination of the complete data, qualitative and quantitative. Part of this process included the consideration of those items that loaded onto multiple factors as evidenced in table 3.6. For example, participant 3 loaded ‘care free’ onto all three factors whilst being most closely associated with Factor 2; the item ‘self-critical’ was also strongly loaded as part of Factor 1. Thus, where a number of items loaded onto multiple factors, they were analysed also in relation to each other and the remaining items. Correspondingly, the simple method of frequency counting allowed for the identification of common trends from a sample of participants who’s contributions were documented in field notes. The aim in this process was to bring together all possible information, qualitative and quantitative, for the exploration of data

without necessarily wanting to generalise or test a specific hypothesis, thus, all available data was scrutinised to build an all-inclusive picture of the participants.

It is probably worth remembering that RepGrid which was explored in great detail earlier, is more complex in the structuring of data collected where elements are jointly assessed in relation to a set of bipolar constructs; such complexity has required equally complex methods of analysis. Therefore, PCA is not utilised here only as ‘a method of analysing that involves finding the linear combination of a set of variables that has maximum variance and removing its effect, repeating this successively’. In RepGrid, this analysis is carried out on each participant response to look for either singular or multiple perspectives about an issue, the constructs derived from the RepGrid are used in the PCA and thus some constructs will appear in more than one factor to a greater or lesser extent, dependent on the strength of the correlations. The overall aim was to build a definition of EI that reflects the individuals’ personal constructions of EI by a sample of lay participants.

The anecdotal evidence presented above from field notes aimed to add more context to the findings. The results show that participants came from medium or large families, one participant had her own family. All participants chose either members of their families or teaching staff as good role models, one participant withheld this information. Half of the participants chose friends as poor role models, two chose family members and teaching staff respectively with one withholding this information.

Although not structured or planned, the information is offered here to describe the context within which participants formed their perceptions of EI. It may be

worthwhile mentioning here that only upon completion of this task was it realised by the researcher that the process of engaging with the participants during the sessions may well have facilitated greater collaboration between researcher and participants which may have led to the collection of richer data.

The factors identified by the above analysis accentuate numerous terms or concepts commonly shared with other models in their description of EI. For example, the aforementioned models regularly refer to the perception and expression of emotion, emotional awareness and overall management of emotions. Terms like happiness and optimism, for example, are frequently applied across most models though the ability model has focussed convincingly on EI as a 'intelligence' which has influenced the terminology.

Notable in these findings are a number of terms not associated with any aforementioned models, together these form an interesting additional perception of EI. Achievement and time skills together with being exceptional, hardworking and successful, whilst applying structured thinking and using organisational and time skills, seem to imply work-related abilities in the description of a person who displays good levels of EI. The term most atypical in the description of EI is humour, most frequently referred to as a quality to be funny. Though interesting, it would probably be difficult to define this term further or draw conclusions beyond including the term in the final definition. Therefore, in summary, it can be concluded that the additional description of EI as mentioned by participants adds a perception of a successful person, here interpreted in relation to work skills.

3.7 Discussion

In the attempt to construct a definition, it seems timely to restate that the list of terms that will form the definition was ascertained through the systematic identity of sets of descriptors on the topic of EI. Beginning with the notion that a term is distinctly meaningful to an individual, the grid technique applied here allows for the identification and rating of sets of constructs that a person uses to compare and contrast important aspects or elements of a given situation.

The iterative process of identifying the variance in figures and distinct patterns produced a list of key terms (Table 3.7). This is presented here to guide the discussion that leads to the design of the definition that represents the primary goal of this study.

Table .9 - Key terms generated to define Emotional Intelligence

1. Emotional Control	16. Humour
2. Emotional Management	17. Non-judgemental
3. Optimism/happiness	18. Good Relations
4. Awareness of self/others	19. Life knowledge/balance good
5. Empathy	20. Accepting
6. Assertiveness/confidence	21. Exceptional
7. Caring	22. Communication good
8. Friendly/love	23. Hardworking
9. Structured thinking	24. Self-critical
10. Organisation/time skills	25. Achievement/success
11. Verbally skilled	26. Carefree/relaxed
12. Openness/honesty/trust	27. Adaptable
13. Respect for self/others	28. Realistic
14. Dependability	29. Outgoing
15. Listening skills	

The terms are listed here to reflect the relevance within which they were named, hence, the first five terms were found to be thought of as most relevant. The analysis of strength of rotated factors (Appendix 3.5) and initial frequency counting supported this formation process. Thus, the predominant factors identified as being most influential in behaviour and also chosen most often as firstly predominant and then secondary behavioural elements were viewed in this research as most relevant, specifically, emotional control, emotional management, optimism/happiness, awareness of self/others and empathy. Factors also identified as highly influential in behaviour but named only once or twice, for example, ‘focus on task’, became part of the remaining key terms.

As stated, there are a number of comparable terms in most EI models and equally there are some similarities between the list of terms and the descriptors of EI listed in the element sheets presented to participants. This concern is briefly raised so as to acknowledge that the method of presenting the element sheets may have induced priming effects although as documented care was taken to assist rather than prompt participants. Having considered some of the relevant issues pertaining to the formation of the list of key terms, it is timely now to present the newly conceived definition.

Founded therefore, on the identified key terms, the personal construction of EI that defines the subjective understanding of the construct in this study as perceived by the participants can be summarised as follows:

‘Emotional Intelligence is perceived as the ability to optimistically control and manage one’s own emotions whilst being keenly aware of self and others in a way that fosters empathy. A person viewed as having higher than average levels

of EI is believed to be adaptable, assertive and confident. They may be better able to be open, honest and generous and put trust in others, be more carefree whilst being realistic and self-critical. They offer some level of acceptance and dependability and show respect whilst being friendly and outgoing. Being non-judgmental and having a good life balance, they use humour and apply life knowledge, care and love.

Achievement and good communication skills together with being exceptional, hardworking and successful whilst applying structured thinking and using organisational and time skills seem to imply work-related abilities in the description of people who display good levels of EI'.

The qualities expressed in this definition are shown to reflect the perceptions of the participants in that a higher level of EI may improve one's sense of optimism towards life, the ability to like self and others, and thus to build and sustain effective relationships. People who are viewed as operating at a higher level are more likely to be aware of and experience happiness, success and achievement, using higher levels of effective communication to manage themselves and their environment. However, the definition presented above changes the emphasis to include descriptors related to achievement and success primarily used to describe work-related abilities. Thus, it could be argued that this has expanded the knowledge and understanding of EI as perceived by lay persons. This could be important for future investigations of measures of EI in that the inclusion of those descriptors may contribute particularly to the assessment of work-related abilities.

Moreover, there are considerable similarities between the terms generated here and those of the elements offered by the trait approach, which are also dominant in the construction of the facets that formed the TEIque (2001) test. It is recognised here that the applications of some of the terms are not always clearly defined within their respective schools of thought which can create ambiguity. For example, empathy and caring for others or emotion control and emotion regulation can be found in most EI models, yet, with no clear understanding as to their meanings. Beyond that, as can be observed in the definitions offered earlier, there are similarities in describing EI in each of the models. Yet, methodologies and implementation of measures differ considerably, which gives different meaning to the terms used to describe EI; this is most ubiquitous when comparing the terms of the ability orientated model with those of the trait model. Whilst acknowledging the credibility of other models, the list of terms or elements describing EI that were generated in this study are, nevertheless, presented with confidence because of the methodology used in forming them. Similarly, Petrides and Furnham (2001) had applied factor analysis in the forming of their initial elements of EI, which were accompanied by clear explanations. For the benefit of comparison, a summary of elements are presented in table 3.8, followed by an outline of those elements that were particularly different in this investigation.

Table .10 - Summary of key EI elements and factors for comparison

Elements (Petrides and Furnham, 2001)	Factors (present study)
Adaptability	Adaptability
Assertiveness	Awareness of others/self
Emotion Perception (self and others)	Communication
Emotion Expression	Confidence/assertiveness
Emotion Mgt of Self	Dependability
Emotion Mgt of Others	Emotion Management
Emotion Regulation	Emotion Control
Empathy (Trait)	Empathy/non-judgemental
Happiness (Trait)	Caring/friendly/love
Impulsiveness (low)	Happiness/optimism
Optimism (Trait)	Openness/honesty/trust
Relationship Skills	Life Balance/accepting
Self-esteem	Optimism
Self-motivation	Outgoing/relaxed
Social Competency	Relationships
Stress Management	Success/achievement

For further details of the similarities between the two lists displayed above, see Appendix 3.6.

As evidenced here, there are some fundamental similarities in the identification of elements and factors listed above, which have also influenced the orientation of this investigation. However, there are a number of interesting differences; for

example, the present study did not include self-esteem but acknowledged awareness of self. This is not aligned with other EI studies in which self-esteem is not only a facet as in the trait model; it is a strong construct in most EI models either as an integral part of EI or as a named element.

As highlighted previously, in this study there seems to be an appreciation for structured thinking and the ability to be a good organiser with time management skills. Moreover, success, achievement, being exceptional and hard working are perceived as valued parts of EI, which can be interpreted as perceiving an ambitious person at work as having high levels of EI. This conflicts with descriptions of EI in literature and although speculative because it was not measured, this may reflect the participants' profile and size; this group was relatively small (10) experiencing their first year at university. Similarly, the terms humour and respect were descriptions which had not been identified in the literature previously; humour is a term that is difficult to analyse because of the cross-cultural and individual differences in understanding and expressing humour which may explain why the term is not mentioned in any EI models.

The similarity between the terms generated in this study and the trait model is substantially different from the ability model (Mayer & Salovey, 1997) which labels emotions as an aid to thinking, reasoning, memory and making judgement; terms like empathy, happiness or optimism are not as relevant as they are in the remaining models. This may well be due to the ability model being more expert-driven and therefore, less likely affected by lay perceptions. Primarily, the ability model aims to measure a true ability rather than typical behaviours and ways of experiencing oneself and the world through emotions. The development and implementation of this model relied strongly on experts when deciding on a set of

appropriate rules that specify which answers in a test like the MSCEIT will be correct. This is not to overlook that Mayer et al., (2003) showed a high degree of convergence between expert and consensus scores in the named test. Nonetheless, it is unlikely that lay perceptions of EI are noticeable in a test based on EI being objectively verifiable with items that resemble intelligence tests. Although all models differ from each other by their methods and related definitions, the influence of the ability model is, however, evident in most mixed models. For example, Bar-On (1997) included adaptability and stress management scales and emotion quotient; Goleman (1995) discussed the marshalling of emotions and the abilities called EI. Such influence cannot be observed in the construction of this definition or indeed the trait model.

At the centre of the analysis is the perception that individuals anticipate events by the meaning that they place on those events. The capturing of meaning can take a number of forms, to name a few, they may vary from observation to asking individuals to talk about themselves to storytelling. The grid procedure results in information infinitely useful in the construction of meaning. In this study, the participants engage in the first instance in the process of attaching meaning through the procedure of exploring in what way two people differ from a third. Having to explore how they view themselves attaches deeper meanings to the behaviours of others and themselves. From within their shared experience as first-year university students they construe events and circumstances from their general behaviours as they interact with others. In this case, the meaning of EI was constructed by their choices of good and poor role models, which were narrow and contained within their families, teaching staff and friends. Meaning also came from their medium to large families and did not include, for example, employers, line managers or locally known people. The capturing of meaning

here allowed for the exploration of individuals' perceptions of EI so as to produce a definition construed by lay participants.

Kelly's (1955) philosophical position, constructive alternativism, assumes that alternative interpretations are always available which makes this particularly useful as an investigatory tool for the exploration of a concept like EI. This is not to suggest that the theory is without criticism, it is probably most applicable to educational settings like assessment of teachers and students, occupational settings like the development of performance appraisal or in clinical psychology and counselling. This is only to mention a few areas, nonetheless, it pays limited attention to problems of motivation, development and particularly cultural difference and age. However, such criticism is usually directed at the application of the method in the therapeutic context; in its favour and for the benefit of this study, the method is difficult to falsify and encourages participants to utilise their ability to choose different meanings of what they prefer or like.

Thus, the final list of terms presented above represents individuals' personal constructions of EI; applying the integrative RepGrid device has permitted the linking of qualitative and quantitative research techniques (Jankowicz, 2004). The RepGrid instrument is particular beneficial to the exploration of what EI consists of because of its uniqueness in capturing the dimension and structure of personal meaning. It allows participants to give meaning to their experiences in their own terms. Not a test in the conventional sense of the word, it is a method that was applied in this study to explore structure and content of personal perception and meanings. Whilst it is recognised that the expression of personally held meanings is subjective, the qualitative material is nevertheless expressed and analysed

here in a demonstrably reliable way whilst preserving the information that conveys individuals' intended meanings of EI.

Having investigated individuals' personal constructions of EI and presented the subsequent definition, the primary goal of this study has been achieved although it is essential to complete with a notion of how these findings may contribute to possible implementation. For example, the methodology utilised in this study seems to be remarkably appropriate for the design of a questionnaire that would aim to investigate either, what EI consists of further or how the two domineering EIs could be brought together. Grounded in a methodology that aspires to present individuals' perceptions, more advanced analysis may be able to produce an all-embracing understanding of EI.

A further examination of the terms not commonly applied in attempts to define EI may lead to a re-examination of how a newly constructed understanding of EI may be utilised in the applied field. To restate the identified terms grouped to demonstrate that they, together, represent work related qualities:

1.	Hardworking	Achievement	Success
2.	Organisational skills	Time skills	Listening skills
3.	Structured thinking	Respect	Exceptional

It is recognised that a number of individual terms, like good listening can also be located in trait and ability models, nonetheless, the context (see table 3.10) within which they were presented steered the analysis towards work-related qualities. It is difficult to draw meaningful conclusions and thus suggest real application in view of the small number of participants. However, in addition to conducting this study with a substantially larger group of participants, the inclusion of a number of

skills, hard work, achievement and success, together with being exceptional, having respect and applying structured thinking, suggests that these qualities would add a different dimension to the personal qualities emphasised to date in the application of EI assessments. The difficulty would, as before, be the assessment of some of the above mentioned skills, although the method of 360˚feedback may be examined, this type of feedback may offer a way of examining, in depth, further perceptions and meanings of these terms. Moreover, prior to any further research, the terms generated here may be tested separately before integrating them into existing assessment tools that would be especially beneficial in the work and education environment.

In conclusion, the results of this study show that the key terms are similar to the facets identified by the trait models and dissimilar to the terms describing the ability models. With reference to the above mentioned detailed summary of the personal subjective constructions of EI, the definition generated in this study reflects the strongest key terms and may be summarised further: EI is perceived as *'the ability to positively and optimistically manage emotions with a sense of care and empathy, whilst achieving success through hard work'.* Though it could not be claimed that the definition is substantially different from existing definitions, the inclusion of terms marked as work-related changes this definition from existing ones. Allowing for the small and narrow sample size, the injection of terms from the world of work is new and unique and may therefore be of particular interest to the field of application in occupational development and training. As will be further explored in Chapter Five, the workplace has been an area of considerable growth but also controversy because of issues concerned with the effectiveness of EI training, selection and performance assessment (Jordan, Ashkanasy, & Hartel, 2002). The definition presented here may offer an

additional avenue for further research with a focus on work-related qualities. The method by which it has been generated is unlike any other in this field. Grounded in constructivist epistemology where individuals are viewed as participating observers who actively generate and transform the patterns of their lives, the conception of the EI definition reflects individual reality and imagination. Thus, such a definition is distinctive, conveying further insight into the understanding of the EI construct, particularly through the inclusion of terms identified here as describing work-related abilities, specifically, hard-working, good organisation and time management skills, which, combined with success, achievement and being exceptional, represent a view of EI different from former definitions.

3.8 Chapter Summary and Concluding Comments

This chapter explored the aims to define EI by presenting the development of the EI construct from early credits to formal definitions. Early credits included the first mention of EI (Leuner, 1966) in a credible journal article and as a subject of the first doctoral thesis (Payne, 1986). The first formal definition presented by Mayer and Salovey (1997) influenced a range of subsequent studies leading to mixed models of EI, represented here by Goleman (1996) and Bar-On (1997). Critical of the majority of EI models, Petrides and Furnham (1997) presented the first systematically derived sampling domain of EI and the subsequent trait model. Although there exists a wealth of information about EI, the search for a definition continues because there exist two dominant and opposing definitions; one views EI as an ability (Mayer et al, 2011) whilst the other views it as a trait (Petrides et al., 2007). Therefore, no consensus has been reached as to how EI may be defined.

In this study, the RepGrid technique and PCA were chosen as a suitable method for analysis because the former can capture successfully personal meanings whilst the latter allows for a demonstrably reliable way to analyse the qualitative material. The rating system of the RepGrid permitted the employment of PCA resulting in a description of a construct system that has not been pre-determined (Fransella, 2003).

The relevant background and recent RepGrid development has been discussed to demonstrate how the idea of 'the person as a scientist' (Kelly,1963) is preserved from early attempts to produce computer assisted programmes to the present-day use of technology. Throughout the process of this analysis, care was taken to reduce the number of PCA components and in applying a combination of techniques, for example, the identification of similarities and frequency counting, the research process was supported in its aim to define EI. The definition offers a perception of EI that focuses on an ability to manage emotions in a particular way, which does not necessarily offer a deeper understanding of what defines EI beyond existing knowledge. Nonetheless, it conveys further supplementary components through the inclusion of work-related abilities and is unique in its methodology. It had been anticipated that the element sheets presented rapidly would not lead the participants to be influenced in their perception of EI. This has been identified as a design weakness in that it is unclear what influence this activity actually had. It is therefore suggested either to omit the effort to prompt participants with element sheets or to include this activity in the recruitment phase when prospective participants are introduced to the concept of EI. Some suggestions were presented for the application of EI as perceived in this study, including further research with the aim to include work-related qualities in future assessment. Moreover, the results offer direction as to which school of thought

this study should align itself with, because there are substantial similarities between the terms this study generated to describe perceptions of EI and the elements or facets identified by Petrides and Furnham (2001) and utilised in the construction of their TEIQue (2003).

In line with the research question, this part of the study investigated how participants defined potential elements of EI, presented the construction of a new definition and added a number of work-related descriptors. The next chapter focuses on what the construct consists of in relation to other constructs such as happiness, self-esteem, mood and personality in order to contribute to the literature.

Chapter 4 - The Relationship between Emotional Intelligence, Happiness, Self-Esteem, Mood and Personality

4.0 Introduction

The overall aim of this chapter is to develop further the investigation into the construct of EI by way of exploring its relationship with multiple constructs in an effort to expand on present research which largely focuses on EI's relationship with one or two variables. The constructs included in this investigation are happiness, self-esteem, mood and personality, and the aim is to go beyond the examination of correlations and which variables can be identified as predictors of EI. This study aims to show whether EI can have a mediating or moderating role when combined with other predictors.

To achieve this, the relationships between EI, happiness, self-esteem, personality and mood were examined and the collective and individual effect of predictor variables on EI scores were explored via the employment of the Pearson's Product Correlation Coefficient, Hierarchical Regression Analysis and a Mediation and Moderation analysis. The literature search had presented a detailed account of the construct development of EI and introduced the theoretical foundations of the constructs under investigation in preparation for this exploration of their relationships with each other. It is assumed, therefore, that the results of this study will complement and enhance present knowledge and understanding of EI and add an original part of research.

4.1 Introduction to the Study

Research into happiness, self-esteem, personality and mood was introduced in the literature review, and whilst their associations have been investigated, research into EI as a separate construct is relatively new. Studies of EI that include happiness, self-esteem, personality and mood as variables are rare indeed. Most studies have explored relationships between EI and happiness (Furnham & Petrides, 2003) or self-esteem (Schutte et al., 2002), whilst others have investigated personality or mood (Matthews et al., 2004) in relation to EI. Therefore, the purpose of this part of the study was to examine the degree of relationships between EI and those variables and explore the effects of predictor variables and examine whether EI can act in a mediating and moderating role. The results are discussed in relation to some of the findings in the existing literature and concluding comments are offered with reference to some recommendations presented by Zeidner et al., (2009).

4.2 Rationale for the Study

Some of the influences concerning the development of the present construct of EI have also been presented during the literature review and were further developed when investigating definitions. Thus, it seems appropriate now to go beyond those findings and explore relationships in an effort to contribute to a better understanding of EI. It is known that so far research has not established EI as a relevant characteristic that is, for example, as important as IQ. Research has identified a variety of traits, abilities and skills supposedly related to or as part of EI. However, as mentioned previously, the question as to what constitutes EI has generated two approaches, but not yet a common theoretical framework. Theory

development has been slow, partly because of the impact of journalistic and speculative investigations following the popularisation of EI in the media (Matthews et al., 2009), and partly because it is basically a relatively new construct as yet not fully researched.

Therefore, the purpose of this part of the study is to contribute to theory development by identifying a cluster of psychological variables that are associated with each other and supposedly related to EI so as to evaluate the distinctiveness of EI and the magnitude of the relationship between EI and multiple variables including the identification of possible predictor variables. It was the intention to investigate the relationship between EI, happiness, self-esteem, mood, and personality, variables that have been named as being associated with EI (Bar-On, 2000; Goleman, 1995). Having identified this gap in literature, the aim was to investigate through the application of a correlational analysis and hierarchical regression to ascertain possible predictor variables as well as to explore mediating and moderating influences.

As theory development is presently at a rudimentary stage, a number of challenges need to be considered. Matthews et al., (2012) advocate that better measurement models are needed for detailed theorising to take place; conversely, theory should also refine measurements. The uniqueness of EI compared to other constructs needs to be explored and there may emerge the possibility that a multi-levelled theory may be necessary similar to the theory development that emerged in studies of intelligence and personality. The general aim of this research, would therefore be to contribute to a theoretical framework that can accommodate a range of processes for the expression of EI that include physical and neural processes as well as learnt skills and self-regulation. Also, it

needs to be considered if the attributes of EI are adaptive so as to move theory to application. Application may result, however, in different outcomes which can be positive or negative. For example, clinical literature shows (Wells, 2000) that a high level of attention to one's own emotional state is related to rumination, and whilst empathy helps understanding others it also invites taking on the burden of their problems. Therefore, in addition to the identification of processes, their implications have to be considered. With these challenges in mind, in the first instance, the named variables and their associations with EI will be explored, so as to ascertain the possible joint effect of their associations with EI.

4.3 Study Variables

4.3.1 Happiness and Self-Esteem

As stated previously, happiness as a specific research area only emerged in the early 1960s when survey organisations in the USA included questions about happiness and well-being. The interest in this field grew markedly since the introduction of the independence of positive and negative affect (Bradburn, 1969). Studies started to explore the definitions, correlates and predictors of happiness (for example, Argyle, 2001; Eysenck, 1990, Myers, 1992, Seligman & Csikszentmihalyi, 2000,). The more recent interest in well-being and happiness has become a field of primary interest and includes Seligman's Authentic Happiness (2002), the announcement of a new theory of well-being termed Flourishing (2011) and two new scales for the measurement of fluctuating and authentic-durable happiness (Dambrun et al., 2012). Whilst this field of research continues to generate large volumes of research, there are relatively few studies where happiness is the prime concept under investigation that explores its role

specifically with EI. Rather, studies of trait EI have focused on how global EI can determine happiness, for example, when exploring the role of EI in happiness (Furnham & Petrides, 2003). Several findings indicate that trait EI predicts happiness and other relevant dimensions like positive affect and life satisfaction over and above personality traits as described by the Big Five model. Furthermore, distinct EI dimensions may have a differentiated role in predicting various components of happiness (Chamorrow-Premuzic, Furnham, & Lewis, 2007; Petrides & Furnham, 2003).

Although these associations have been documented, far less is known about how EI interconnects with multiple variables such as self-esteem happiness, personality and mood.

If there has been any interest in exploring the relationship between EI and other variables, however limited, it has been primarily in the field of Personality. Recognising that environmental factors influence levels of happiness some would argue that personality traits remain the most robust predictors of happiness, not EI (Matthews, Zeidner, & Roberts, 2002), for example, extraversion and neuroticism have been shown to account for almost half of the total variance in a number of measures (Myers & Diener, 1995). Strong evidence has been presented for the association between personality and happiness by DeNeve and Cooper (1998). Their analysis indicated that emotional stability, conscientiousness, extraversion and agreeableness predispose individuals towards happiness.

Nevertheless, a positive association between trait EI and happiness has been recognised in a number of studies that also indicated that EI may predict

happiness (Furnham & Christoforou, 2007; Furnham &, Petrides, 2003) which can inform the design of training programmes that aim to enhance happiness. Some have even argued that trait EI is conceptually and empirically related to happiness and well-being (Palmer, Donaldson, & Stough, 2002; Petrides & Furnham, 2001; Saklofske et al., 2003). Although Mayer, Salovey, and Caruso (2008) conceptualised EI as ability, their early findings also suggested a positive correlation between EI and greater life happiness. The relationship between cognitive ability and happiness was explored in a few studies and there is little evidence that intelligence is related to happiness (Argyle, 2001; Eysenck, 1990).

In one of the very few studies specifically investigating the relationship between EI and Happiness, Furnham and Petrides (2003) demonstrated that scores in cognitive ability were not associated with happiness or EI. The results of the same study also showed extraversion and neuroticism to be statistically significantly associated with happiness and trait EI, the positive correlation between trait EI and happiness remained significant after controlling for the Big Five scores. The most relevant finding as a result of a hierarchical regression was probably the strong relationship between happiness and personality; it diminished once EI was taken into account. In line with these findings, a hierarchical regression analysis approach will be most appropriate for the exploration of relationships in this study. Moreover, Chamorro-Premuzic, Bennett, and Furnham (2007) not only established positive correlations between trait EI and happiness, their results also indicate that trait EI may play a mediational and determined role with happiness.

As so pertinently outlined by Miles and Shevlin, (2001), in their classic paper, mediation models seek to identify and explain the processes that underlie the

relationship between an independent and dependent variable by including a third variable (Baron & Kenny, 1986). Overall, there exist limited studies that specifically investigated whether trait EI has a mediational or indeed moderating role. The latter investigations are primarily related to job performance and stress interventions (Bazinska & Szczygiel 2013; Douglas et al., 2004; Gorgens-Ekermans, 2012;Jordan et al., 2002) and the former can be found in the field of personality studies (Chamorro-Premuzic et al., 2007). Increasingly, mediating factors have been identified to explain the relationship between EI and adaptive outcomes and the EI-health relationship (Matthews et al., 2012). Thus, it appears most suitable for this study to investigate, firstly, the relationship between EI and the named variables in order to identify predictor variables and, secondly, to see whether there exist mediating or moderating relationships. Such endeavour offers the opportunity to add new and additional information to the understanding of EI.

In comparison with happiness, self-esteem and its relationship with EI are viewed very differently depending on theoretical approaches. Those who describe EI as an eclectic mix of traits (Petrides et al., 2001) would include them when conceptualising the construct, others are critical because their definition conceptualises EI as a set of abilities (Mayer et al., 2004). Features such as self-esteem and happiness are viewed as preventing the concept from being valid and distinguished from other concepts. Typically, when EI is assessed via a questionnaire, it will contain a self-esteem component (Bar-On, 2000).Whilst research investigating the relationship between self-esteem and EI is also limited, self-esteem represents a well-researched area which also developed rapidly since the 1960s.

As outlined in the literature review, Rosenberg's (1965) theory was based on the analysis of data from a sample group of 5000 participants. Central to this approach are feelings and beliefs about worthiness. Prior to this, studies of self-esteem were based on introspection (James, 1890) and were favoured by the psychoanalytical approach (White, 1963), theories that could not be tested empirically. Similarly, the remaining key theories reflecting the humanistic (Branden, 1969), cognitive-experiential (Epstein, 1993) and behavioural perspective (Coopersmith, 1967) would have little to offer to the study of EI and self-esteem, because their limitations relate to inadequate data collections, or, in Epstein's case, the theory was more concerned with personality development than self-esteem.

However limited, there has been evidence in support of a strong correlation between EI and self-esteem (Schutte et al., 2002). The investigators found that higher levels of EI were not only associated with higher self-esteem but also with positive moods. Similarly, higher EI together with higher self-esteem were found to be associated with greater happiness (Sillick & Schutte, 2006). However, Baumeister et al., (2005) warn that raising self-esteem may simply improve positive emotions; they remind readers that high self-esteem appears as a consequence rather than a cause, for example, in academic achievements.

Whilst investigating perceived early parental love and adult happiness, Sillick et al., (2006) found that EI and self-esteem were related to perceived love and happiness and that the relationship was mediated by EI and self-esteem. When examining maternal and paternal love separately, maternal love was positively associated with adult love, mediated through higher EI and self-esteem. Interestingly, EI has frequently been related to social cognitive beliefs of positive

self-concept and self-esteem, but Matthews et al., (2009) argued that such beliefs are not necessarily adaptive and that self-esteem, usually presented positively, may have a negative or dark side (Baumeister et al., 2005) which can promote narcissism and aggression. Therefore, the construct of self-esteem may need to be re-considered to include self-compassion (Neff, 2011), a definition far more suitably associated with EI because it provides more attention to greater emotional resilience and stability.

4.3.2 Mood and Personality

To ascertain how EI may be related to Mood, a brief mention of emotion research that influenced this development seems appropriate. As detailed in the literature review, a wide range of emotion theories exist, and of those, the view that emotions include basic components of cognition, evaluation, motivation and feelings (Ben Ze'ev, 2000) represents a perspective that provides a broader conception of EI because it may include cognitive, motivational and feeling elements. However, the distinction that is often made between emotions and mood (Ortony & Clore, 1989) remains a concern for the understanding of EI, in that an emotion is somewhat linked to a particular event or stimulus and may be complex and differentiated; emotions may be far more intense than moods (Simon, 1967). Moods are more free-floating and do not necessarily refer to any particular object.

The approach that may inform the understanding of EI (Mathews, et al., 2002), separates emotions from other parts of mental life where emotions are viewed as latent constructs that can be distinguished from subjective feelings. The efforts to explain causes and consequences when exploring intensity of feelings, as is

prevalent in mood research (Thayer, 1989, 1996) also offers a way of informing the understanding of EI. Overall, the study of emotion has offered a wide range of theories to the efforts of EI development; however, studies of mood remain challenging. They highlight, for example, the energy-tiredness spectrum that is so prominent to the Thayer (1996) and Matthews (1990) models.

As part of emotion research, investigators have been particularly interested in the way individuals actively manage their own moods, that is, repair a negative or maintain a pleasant mood. For example, Thayer (1996) outlined how people can regulate moods by deliberately thinking positively and by choosing to engage in uplifting activities, for example, leisure activities with friends. EI researchers have been attracted by this idea of changing moods specifically via internal regulation through the application of thought processes. Earlier studies (Salovey et al., 1995) had demonstrated potential links between EI and mood in various aspects of EI which were found to be related to baseline mood, mood impairment and recovery. Ciarrochi et al., (2000) found that participants high and low on EI's self-regulation responded differentially to positive and negative moods. Participants who were found to be high on self-regulation produced more positive stories when in a positive mood than those in a neutral mood condition; those in a negative mood condition generated significantly more negative stories. As part of a behavioural validation study, Petrides and Furnham (2003) investigated reactivity to mood induction; they found that participants with high levels of EI demonstrated greater sensitivity to mood induction procedures than those with low levels of EI. Overall, as Zeidner et al., (2009) noted, some now view the ability to successfully regulate mood as a defining feature of EI; it seems indeed likely that mood represents a component of EI but empirical evidence is limited.

Not all studies focus solely on mood and EI, indeed, some investigate mood as part of personality and EI. For example, when investigating mood regulation and EI with an emphasis on individual differences, Ghom (2003) utilised meta-emotion traits of clarity, attention and intensity, thus four distinct types (overwhelmed, hot, cerebral and cool) emerged.

These types were found to react differently to emotional situations, how they regulated their mood and how they made judgements. Particularly, the hot type was more reactive to emotional situations than the other types. The overwhelmed type regulated mood differently than the other types, which also led to different judgements. Interestingly, the overwhelmed individual seemed to be unable (or unwilling) to avail themselves of critical affective information.

Unlike mood, personality is specifically relevant to an understanding of EI because it has become a main feature that distinguishes the trait approach from the ability approach. The trait approach views EI as part of a wider domain of personality, a research area that has already established traits that describe emotional states such as extraversion and neuroticism. There are also well-validated models of the structure of personality that allow us to define and measure a variety of traits (de Raad, 2009; Matthews, Deary & Whiteman, 2009). Fundamental to the exploration of the relationship between personality and EI are a number of assumptions concerning personal attributes. For example, personality dimensions need to be viewed as changing over time (Matthews et al., 2012) and individual differences may reflect stable traits and situational factors. Importantly, these dimensions are usually experienced along a continuum, not neglecting the interaction between genes and situational factors.

Approaches to and models of personality have been presented in the literature review, as mentioned, the Five Factor Model is probably the best known model (FFM: McCrae & Costa, 2008) upon which other models like the HEXACO have been based, not to neglect mentioning the importance of the Eysenck Personality Questionnaire (EPQ: Eysenck & Eysenck, 1975) and the revised Eysenck Personality Questionnaire (EPQ-R, 1991) with its updated psychoticism/tough-mindedness scale. Evidence to demonstrate whether EI represents an independent construct distinct from personality, ability or indeed intelligence is not conclusive, although, some evidence (Mayer et al., 2008) indicates how EI can be relatively independent of personality by showing, for example, that the EI measure, the MSCEIT, demonstrates the greatest independence from the Big Five. This is different from the pattern of overlap identified by a number of correlational studies of mixed EI models and the measure of personality (Brackett & Mayer, 2003; Dawda & Hart, 2000; Goslin et al., 2003; Petrides & Furnham, 2003).

4.3.3 Summary of Section

The aim of this section has been to present each of the study variables and to ascertain their respective associations with EI. Research in this area is limited and restricted to investigations that focus primarily on the relationship between EI and one or two variables only. The actual number of studies presenting empirical evidence is still relatively low, the evidence generated from these efforts reflects the different theoretical frameworks of ability and trait EI; it is not evident how unique EI actually is, although there is some evidence that the construct is more distinct within the ability approach (Matthews et al., 2009). Having identified that studies investigating relationships between EI and other variables are limited, this

study will expand on the previous research so as to explore relationships between EI and multiple variables, thus contributing to the theory development that aims to establish EI as a well-defined construct. Recognising a number of challenges, the focus has been on the identification of previous research findings that have influenced the development of the EI construct. With this in mind, the primary aims of the present study can now be formulated in response to the first research question and to complete the investigation into what defines the EI construct.

4.3.4 Primary Aims of the Study

Based on the literature investigated to date, the primary aims of this study were to explore how a number of variables are related to EI and each other and whether EI as a construct is sufficiently distinct from happiness, self-esteem, mood and personality. To enhance this investigation, the question was added whether EI can be predicted by any of the variables under investigation and whether there exists a mediating or moderating relationship.

As stated, the relationship between EI and other variables has been investigated, with personality studies having produced the most persuasive evidence. For example, trait EI has been located in the personality factor space (Petrides et al., 2007) and EI has been found to correlate positively with extraversion in a number of studies (Saklofske et al., 2003; Schutte et al., 1998; Petrides & Furnham, 2001). The relationship between EI, happiness and self-esteem is viewed as being dependent, however, on the trait or ability approach. The former includes both variables in their conceptualisation of the EI construct; the latter argues that these variables prevent EI from developing as a valid, independent construct. The

study of mood has been of interest because of the idea of mood regulation as a defining feature of EI, accepting that empirical evidence remains limited (Zeidner et al., 2009).

Whilst it is recognised that literature offers findings that are influenced by different theoretical frameworks, this study aims to bring together EI and multiple variables whilst being aligned to the trait approach. Nonetheless, in its search for an increased understanding about the EI construct this study will continue to draw upon the full range of empirical evidence. Although the overall aim of this research is to contribute to the general field of EI research, for this part it can be broadly hypothesised that there will be significant correlations between EI, happiness, self-esteem, mood and personality and that predictor variables will be identified. These aims were achieved through the employment of a correlational design to investigate relationships and hierarchical regression to investigate possible predictor variables, followed by a mediator and moderator analysis.

4.4 Method

4.4.1 Design

This part of the study used correlational analysis to identify a cluster of psychological variables that are associated with each other and related to EI. Applying hierarchical analysis the attempt was made to identify predictor variables for EI as the dependent or criterion variable and to explore the role of mediation and moderation.

4.4.2 Statistics Utilised in this Study

4.4.2.1 Pearson's Product Correlation Coefficient.

This test was used to investigate the strength and direction of the relationship between sets of variables. In this study, the group of variables comprises happiness, self-esteem, personality and mood. The data have to satisfy three basic assumptions: the variables have to be measured on interval or ratio scale, homeogeniality of variance and normality of distribution. In this study multicollinearity is recognised if the IVs are very highly correlated, for example .80 or greater (Field, 2009).

4.4.2.2 Multiple Regression: Hierarchical Approach

Multiple regression is frequently used in determining the best predictors in the analysis, the approaches to determine their quality are stepwise and hierarchical regression. It is recognised that the former is data driven with the order of IVs being determined by data which are useful in prediction studies; the latter is theory driven whereby the order of IVs is determined *a priori,* which is useful in prediction and explanation studies. In an effort to deploy coherent psychological theorising and theory testing, a hierarchical approach was chosen for this study. It was also recognised here that hierarchical regression is particularly useful for evaluating the contributions of predictor variables that exceed previously entered predictors; a sequential process that involves the entry of predictor variables into the analysis in blocks whereby the general principle of ordering the entry of the IVs is based on theory and past research. When determining the order of the IVs it may be suitable to acknowledge that there are a number of criteria for this

ordering process that varies from causal priority where prior theory and logic may have established a causal sequence of relationships or temporal precedence where, similarly, IVs occur in some natural progression in time. Nonetheless, for this study, the most appropriate method is research relevance because the goals focus here on certain IVs like happiness, self-esteem and personality, with the most relevant one entered first and thus explores whether a new IV provides additional explanatory information. This study employed the hierarchical approach in an effort to systematically examine the associations between the variables and includes a mediation and moderation analysis (Frazier, Tix & Barron, 2004)

4.4.2.3 Mediator and Moderator Analysis

Beyond considering whether EI could actually be a predictor the overall aim of this method was to investigate whether EI has a biasing or mediating role or whether it has a synergistic or moderating relationship when combined with other predictors.

Overall, a given variable may function as a mediator in that it explains the relationship between the predictor and the criterion. Mediators describe and explain how physical events can take on internal significance (Baron & Kenny, 1986). Moderator variables refer to a qualitative or quantitative variable that affects the direction and strength of the relationship between a predictor and an outcome. They can enhance, reduce or change the influence of the predictor (Aiken & West, 1991).

It is recognised that there are a number of models for testing mediation and moderation effects ranging from multiple regression to structural equation modelling with the latter being often preferable when multiple measures for each of the constructs are involved. For this study, a mediation and moderation analysis was employed so as to investigate which role EI can take.

4.4.3 Participants

In total there were 146 participants, 15.8 % were male, 80.8% female and 3.4% did not disclose their sex. The age ranged from 18 to 39, the mean age was 20.2 years (s.d. = 3.8); participants were recruited from first year psychology students at the University of Wolverhampton via the participant pool; participants received credits for their time. They were recruited during a statistics lesson and all students were allocated to this investigation, observations with missing values were removed from the analysis.

4.4.4 Materials

Each participant was provided with a consent and information sheet and a test booklet included six tests, each presenting its own individual instructions; the sequences of the tests had been varied to address possible order effects. The effects of test length on validity was considered because the tests utilised for this study were relatively short, this was a consideration when choosing the EI measure which had been reduced from 153 for the TEIQue to 30 items for the TEIQue-SF (Petrides et al., 2009).

Following Spearman's (1910) assertion that lengthening a test will improve reliability and indirectly its validity has influenced test practice up to the presence,

although more recently there has been growing evidence that tests can be reduced by more than 60% without appreciable decreases in validity (Bell & Lumsden, 1980). Likewise, Burisch (1997) notes that even very short scales suffer hardly any loss of validity although reductions are not always conceivable, for example, for ability tests like the MSCEIT (Mayer et al., 2002). The remaining tests utilised in this study are short but each demonstrates strong psychometric properties although the brief measure of the big-five personality domain (PIPI: Gosling et al., 2003) has been recognised by Gosling et al., (2003) as being inferior to standard multi-item instruments. The overall aim in designing this test was to produce a measure of the broad Big Five domains. The tests used for this study are described below.

4.4.4.1 The Trait Emotional Intelligence Questionnaire – Short Form (TEIQueSF: Petrides & Furnham, 2009)

The TEIQue-SF is based on the Trait Emotional Intelligence Questionnaire-Long Form - TEIQue-LF, (Petrides and Furnham, 2003), a self-report inventory that covers the sampling domain of trait EI comprehensively. It comprises 153 items, measuring 15 distinct facets, four factors and global trait EI. The TEIQue-SF provides highly reliable global trait EI scores that correlate meaningfully with a wide range of diverse criteria including coping skills and life-satisfaction.

The TEIQue-SF is a 30-item questionnaire designed to measure global trait EI. Two items from each of the 15 subscales of the long form version were selected for inclusion, based primarily on their correlations with the corresponding total subscale scores. Reliability estimate Cronbach's alpha = .85; test- retest reliability

= .50 - .82; global score =.78, 12 month period; internal consistency =.88, N =1119 (Petrides and Furnham, 2006).

4.4.4.2 The Oxford Happiness Questionnaire (OHI: Hills & Argyle, 2002)

The Oxford Happiness Questionnaire as the Oxford Happiness Inventory (Argyle, Martin, & Crossland, 1989) was designed to measure happiness as a whole. Some items are almost identical to the measure of depression, the Beck Depression Inventory (BDI, 1976) but reversed on content, it has subcategories of personal achievement, enjoyment and fun in life and vigour and good health. The revised instrument is compact and easy to use and when tested against the OHI, validity is satisfactory (Hills & Argyle, 2002).

The OHQ is a 29-item questionnaire measuring trait happiness. High scores indicate high state of happiness; it has an internal reliability Cronbach's alpha = .90 and a test-retest reliability of .78. It has a reported validity of .43 with friends' rating of happiness (Argyle et al., 1989).

4.4.4.3 UWIST Mood Adjective Checklist (UMACL: Matthews, Jones & Chamberlain, 1990)

The UMACL was proposed as a refinement to existing measures of mood, it consists of 29 adjectives rated along a four- point Likert scale to test whether they apply to the participants' mood at the moment of completing the test. The authors reported appropriate validity and reliability data of the UMACL as a measure of mood state.

A major factor analysis (Matthews et al., 1990) confirmed that the UMACL was designed to measure three dimensions, Energetic Arousal, Tense Arousal and Hedonic Tone, two less well defined dimensions, General Arousal and Anger-Frustration also emerged, the first three being factorial bipolar scales, the latter two unipolar with no factorial basis and reduced reliability. Congruence coefficients were .95 Energetic Arousal, .88 Tense Arousal and .85 Hedonic Tone. In their conclusion the authors state that correlational and experimental data show satisfactory predictive and discriminant validity and that their investigation shows that the three dimensions of mood may be measured reliably.

4.4.4.4 The State Self-esteem Scale (SSES: (Heatherton & Polivy, 1991)

The scale has a reported internal consistency of Cronbach's alpha = 0.92. The sensitivity of the scale to change was tested in two settings: academic failure and success and a treatment programme. Both studies suggest the scale is sensitive to changes in self- esteem. This questionnaire consists of 20 items rated on a five-point scale as levels of agreement of the participant with each item describing a thought or feeling. Responses range from 1 = not at all to 5 = extremely.

This test measures current thoughts and is based on the assumption that self-esteem is open to momentary changes. It was designed to be psychometrically sound regarding factor structure, content validity and construct as well as discriminative validity (Elington & Marriott, 1996). Designed for potential use in a variety of areas the test assesses performance, social and appearance self-esteem.

4.4.4.5 Ten-Item Personality Inventory (TIPI: Gosling, Rentfrow & Swann, 2003)

The TIPI is a ten-item measure of the Big Five (or Five-Factor Model) dimension. It was designed to meet the need for a short measure and although inferior to standard multi-item instruments, psychometrically this instrument, as others of its kind, eliminates item redundancy reducing fatigue, frustration and boredom. There is a lower consistency estimate on Cronbach's alpha. Extraversion .68; Agreeableness .40; Conscientiousness .50; Emotional Stability .73; Openness to Experience .45. (Gosling, Rentfrow, & Swann, 2003).

As indicated above, it appears that the goal for designing the TIPI was not to create an instrument with high Cronbach's alpha and good Confirmatory Factor Analysis (CFA) fits or Exploratory Factor Analysis (EFA) indices. The aim was to assess the constellation of traits defined by the Five Factor Theory of Personality. It was designed to measure broad domains with only two items per dimension, using each at both the positive and negative pole.

It is recognised that more work is needed to show that the TIPI actually measures the Big Five, nonetheless, the demand for brief measures is growing for reasons of administration efficiency. As Gosling et al. (2003) had suggested, whilst maintaining construct validity some internal consistency may be sacrificed, hence low Cronbach's alpha were not considered to be sufficiently relevant for not employing this measure. Moreover, in their attempt to replicate and extend the construct validity of the TIPI Jonason et al. (2011) showed that it measures the Big Five with reasonable validity, concluding that the TIPI is an equitable alternative for the larger scales to measure the Big Five.

4.4.4.6 Rosenberg Self-Esteem Scale (RSE: Rosenberg, 1965)

The Rosenberg Scale was developed to assess global self-esteem and has enjoyed widespread use and utility. The original sample consisted of 5,024 high school juniors and seniors from 10 randomly selected schools in New York State. A uni-dimensional measure of self-esteem, the scale has become a standard against which new measures are evaluated and allows for a straightforward estimate of positive and negative feelings about the self.

The 10-item scale was designed to make administration easier, allow economy of time and face validity. Originally a Guttman-type scale, using a four-point response it has adopted the more familiar Likert-style response. The scale generally has high reliability; test-retest correlations are typically in the range of .82 to .88, and Cronbach's alpha for various samples is in the range of = .77 to.88 (Rosenberg, 1986; Blascovich & Tomaka, 1993).

4.4.4.7 Subscales of Tests

Whilst details about reliability and validity of materials presented above form an important part of this section, it seems prudent to comment here on the general interpretation of subscales as suggested by their respective researchers because they guide the interpretation of results of this study. The tests chosen for this study were scored to produce a single or a number of sub- scores for analysis. For example, the TEIQue-SF, OHQ, RSE assess Trait EI, happiness as a whole and global self-esteem, respectively. This is achieved by generating one overall score representing the summation of specific components, unlike the UMACL, SSES and TIPI where the scores represent a number of sub-scales.

The subscales of the UMACL (Matthews et al., 1990) included for analysis are Energetic Arousal, Tense Arousal and Hedonic Tone. The first scale measures feelings of subjective energy and includes on the positive end items like ‘energetic’, ‘alert’ and ‘vigorous’ and negative items such as ‘passive’, ‘sluggish’ and tired’. Tense Arousal measures feelings of subjective tension, positive items include ‘nervous’, ‘tense’ and ‘jittery’, and negative items ‘relaxed’, ‘composed’ and ‘calm’. Hedonic Tone measures the overall pleasantness of mood; positive items include ‘happy’, ‘cheerful’ and ‘satisfied’ and negative items ‘sorry’, ‘depressed’ and ‘sad’.

Confirmatory factor analysis shows that the SSES (Heatherton & Polivy, 1991) consists of three major components; Performance, Social and Appearance Self-esteem (Bagozzi & Heatherton, 1994). Performance Self-esteem refers to the individual’s sense of general competence and includes among others, intellectual abilities, self- confidence and efficacy. Social Self-esteem refers to how individuals believe others perceive them and Appearance Self-esteem refers to how people perceive themselves and includes body image and physical attractiveness.

The TIPI (Gosling et al., 2003) designed to reflect the description of the Big Five (Digman, 1990; Goldberg, 1992), consists of five sub-scales. Openness is characterised by originality, curiosity and ingenuity, the factor is sometimes referred to as Culture or Intellect. Conscientiousness reflects orderliness, responsibility and dependability; the factor may be referred to as Dependability. Extraversion is characterised by talkativeness, assertiveness and energy, the factor being referred to as Surgency. Agreeableness which is characterised by good-naturedness, trust and co-operation, here the factor is most often referred

to as Agreeableness but also as friendliness with compliance. Neuroticism characterised by upsetability is the polar opposite of Emotional Stability, which is the factor scored in the opposite direction.

4.4.5 Procedure

First year psychology students were recruited during a lecture and presented with an outline of the study and assured of confidentiality. This was supported by an information sheet (Appendix 4.1) which included a list of the tests to be administered. Each participant was identified by a number to ensure confidentiality, no personal details were required.

Students were thanked for offering to participate and required to sign the informed consent sheet (Appendix 4.2). Participants were then asked to refrain from talking, reminded that each test presented its own instructions and that the test session was untimed. They were asked to complete the tests swiftly and once completed, to wait quietly until everybody had completed the tests. They were invited to ask questions and then instructed to start (Appendix 4.3).

A brief pilot study had been conducted prior to the actual test session to explore the time of test delivery and instructions. Five participants were invited to complete the tests and each test was timed separately so as to produce an estimate of time for the overall test session; test completion was estimated at 26 minutes and delivery of instructions, including time for questions, at 14 minutes (Appendix 4.4). The complete test session lasted 40 minutes. Once all participants had completed their tests, the booklets were collected; participants were thanked and following a short break the psychology lecture resumed.

4.5 Results

4.5.1 Initial Correlation Analysis

Table 4.1 shows the correlations between EI, happiness, mood, state self-esteem, personality and global self-esteem in their raw scores. EI, happiness and global self-esteem are scored to produce a single score with the remaining scales producing a number of sub-scores.

Table .11 - Pearson's correlations for Emotional Intelligence and happiness, mood, state self-esteem, personality and global self-esteem

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Emotional Intelligence														
2 Happiness	.630**													
3 Energetic Arousal	.097.	.081.												
4 Tense Arousal	-.203*.	-.166*.	-.197*											
5 Hedonic Tone	.157	.134	.377**	-.724*										
6 Performance- self esteem	.409**	.434**	.167*	-.157	.092									
7 Social self esteem	.376**	.439**	.124	-.010	-.007	.462**								
8 Appearance self esteem	.440**	.389**	.028	-.011	-.035	.390**	.570**							
9 Extraversion	.262**	.388**	.044	.080	-.048	.276**	.244**	.100						
10 Agreeableness	.196*	.143	.155	-.238*	.269**	-.066	.021	.168*	-.090					
11 Conscientiousness	.270**	.135	.149	-.077	.159	.313**	.095	.150	-.091	.084				
12 Emotional Stability	.458**	.485**	.187*	-.206*	.254**	.386**	.328**	.311**	.189*	.183*	.053			
13 Openness to Experience	.371**	.174*	-.046	-.003	-.026	.319**	.094	.066	.150	.029	.294**	.040		
14 Global Self –esteem	.654**	.597**	.155	-.113	.101	.632**	.587**	.610**	.266**	.058	.268**	.449**	.174*	

*Note: **Correlation significant at the .01 level (2- tailed)*Correlation significant at the .05 level (2-tailed)*

For this sample, correlations were computed among six scales on 146 participants on all variables. Those which stand out are identified as the largest correlations. Here the strength of a correlation represents a perfect positive correlation i.e. +1 or a perfect negative correlation, i.e. -1; within this a correlation can be small (+ or - .1) medium (+ or – .3) or large (+ or -.5). Summary statistics for all variables are given in table 4.2. They include correlation coefficients and P values for all variables; no correlations greater than .8 were found.

The results from the correlation matrix suggest that the largest correlations were found between Global self-esteem and EI (.65**, p<.01), Happiness and EI (.63**, p<.01), Happiness and Global self-esteem (.60**, p<.01), Performance self-esteem and Global self-esteem (.63**, p<0.01), Social self-esteem and Appearance self-esteem (.57**, p<.01), Appearance self-esteem and Global self-esteem (.61**, p<.01), Global self-esteem and Social self-esteem (.59**, p<.01), Tense arousal and Hedonic tone (-.72**, p<.01**).

These results suggest that this sample of participants, comprising first year psychology students, displayed strong positive levels of overall self-esteem as well as in their current thoughts as measured by performance, social and appearance self-esteem. Indeed those self-esteem measures were highly related with each other, global self-esteem, happiness and EI which was also highly correlated with happiness and global self-esteem together with the largest negative correlation between tense arousal and hedonic tone. On the basis of these correlations, the participants displayed behaviours associated with happiness and positive perceptions of themselves overall and in the setting they found themselves in together with positive feelings about their emotional states whilst being calm and composed. The next table, 4.2, will show further details

about the correlations including the correlation coefficient for EI with the study variables.

Table .12 - Summary of statistics

Variable	Mean	Std. Error of Mean	Median	Std. Deviation	Skewness	Minimum	Maximum	Correlation Coefficient with study variables	*p* Value
Emotional Intelligence	147.85	1.65	148.00	19.93	-0.28	88	192	-	
Happiness	118.60	1.42	120.00	17.17	-0.08	75	181	.63	**<.001**
Energetic Arousal	20.59	0.34	20.00	4.08	-0.05	9	31	.10	.25
Tense Arousal	17.56	0.42	17.00	5.08	0.49	8	29	-.20	**.01**
Hedonic Tone	23.01	0.47	24.50	5.70	-0.55	9	32	.16	.06
Performance self esteem	24.53	0.42	25.00	5.02	-0.32	10	35	.41	**<.001**
Social self esteem	24.03	0.50	25.00	6.06	-0.44	8	35	.38	**<.001**
Appearance self esteem	18.73	0.44	19.00	5.29	-0.01	7	32	.44	**<.001**
Extraversion	8.77	0.23	9.00	2.80	-0.19	2	14	.26	**<.001**
Agreeableness	9.76	0.18	10.00	2.23	0.48	5	20	.20	**<.02**
Conscientiousness	9.85	0.22	10.00	2.63	-0.43	2	14	.27	**<.001**
Emotional Stability	8.85	0.22	9.00	2.72	-0.24	2	14	.46	**<.001**
Openness to Experience	10.29	0.17	10.00	2.11	-0.29	5	14	.37	**<.001**
Self esteem	29.81	0.45	31.00	5.43	-0.57	16	39	.65	**<.001**

The table shows the degree of relationship between EI scores and Happiness, Self-esteem, global and state, Personality and Mood. Pearson's coefficient of correlation was computed. The distribution of the EI score had a negative coefficient of skewness score of -.28 indicating a slight negative skewed distribution. However the distribution satisfied the normality test (Kolmogorv Smirnov Statistic =.049, *p* value =.200).

As can be seen in table 4.2, EI is significantly and positively correlated with all but energetic arousal and hedonic tone with energetic arousal presenting a negative correlation. Interesting to note here is what the mean values say about the general characteristics of this sample of participants. For example, they appear to have good, positive EI which means that they have an understanding of their own and others' emotions, are happy with positive perceptions of themselves whilst not displaying any strong personality characteristics like extraversion, agreeableness, conscientiousness, stability and openness to experience.

To summarise this part of the results, the attempt was made to dissect the descriptive statistics and to offer the details necessary for the exploration of EI and its associations with the multiple variables which form the core of this examination. To extend these findings, the results of a hierarchical multiple regression will be presented next followed by analysis.

4.5.2 Multiple Regression Analyses: A Hierarchical Approach

The overall aim of this part of the study was to systematically examine the associations between EI and happiness, self- esteem, personality and mood. The sample size of 146 was deemed adequate given the number of independent

variables included in the analysis (Tabachnick & Fidell, 2001). The preliminary analyses of correlations had revealed that no independent variables were highly correlated, thus the collinearity statistics were within accepted limits and the assumption of multicollinearity was deemed to have been met (Coakes, 2005).

A hierarchical regression was employed in preference to a stepwise regression to allow for a theory-driven approach. As documented throughout this thesis, a growing body of empirical evidence suggests that EI correlates with a number of outcomes such as higher levels of happiness and well-being and self-esteem (Zeidner et al., 2009). Mood and personality have been considered with EI, the former because of the interest in mood regulation, the latter because of the ongoing exploration of the personality dimensions that may well overlap with EI dimensions. The hierarchical regression method allowed for variables to be selected on past, credible work and sound theoretical literature.

Hence, the selection of happiness as the first variable to be entered aims to reflect the growing interest in the study of happiness and well-being although it is recognised that self-esteem had been identified as the strongest correlation with EI, nevertheless, both recorded +.6, with global self-esteem at the strength of .654 and happiness at .630. Within the theoretical perspective of what EI consists of, it also has to be remembered here that the EI research remains divided by ‘trait and ability’. As discussed repeatedly in this thesis, the differing schools of thought offer conflicting theoretical frameworks relating to happiness and self-esteem, the former representing a stronger concept in relation to EI.

The hierarchical regression was employed to determine the individual effects of the different independent variables of happiness (block 1); global self-esteem (block 2); state self-esteem variables of performance self-esteem, social self-esteem, and appearance self-esteem (block 3); personality traits of extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience (block 4); and mood variables of energetic arousal, tense arousal, and hedonic tone (block 5).

Each of these effects will be investigated using one regression model with five blocks for the hierarchical method in order to compare the effects of different predictors. A level of significance value of .05 is used in order to determine the statistical significance of relationships in the regression analysis. A statistically significant effect by the independent variables to the dependent variable is determined if the probability value of significance (p-value) of the regression is less than or equal to the level of significance value. If the parameter estimate is significant at the .05 significance level, the beta coefficients of the predictors are investigated to determine how strongly the independent variables effect the dependent variable of EI. Tables 4.3 and 4.4 summarise the results of the hierarchical regression analysis.

Table .13 - Regression Results of Individual Effects of Predictors on EI

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	60.22	9.16		6.57	.005*
	Happiness	.74	.08	.63	9.66	.005*
2	(Constant)	48.77	8.46		5.77	.005*
	Happiness	.44	.09	.37	5.10	.005*
	Global Self esteem	1.59	.27	.43	5.92	.005*
3	(Constant)	49.75	8.66		5.74	.005*
	Happiness	.45	.09	.38	5.16	.005*
	Global Self esteem	1.63	.36	.44	4.56	.005*
	Performance self esteem	-.12	.31	-.03	-.38	.70
	Social self esteem	-.27	.26	-.08	-1.05	.29
	Appearance self esteem	.30	.30	.08	.99	.32
4	(Constant)	26.75	9.69		2.76	.01*
	Happiness	.34	.09	.29	3.91	.005*
	Global Self esteem	1.56	.33	.42	4.67	.005*
	Performance self esteem	-.60	.31	-.15	-1.96	.05*
	Social self esteem	-.21	.24	-.06	-.87	.38
	Appearance self esteem	.28	.28	.07	1.01	.32
	Extraversion	.25	.44	.04	.57	.57
	Agreeableness	.71	.52	.08	1.37	.17
	Conscientiousness	.46	.46	.06	1.00	.32
	Emotional Stability	1.10	.48	.15	2.27	.03*
	Openness to Experience	2.47	.56	.26	4.42	.005*
5	(Constant)	42.29	15.24		2.78	.01*
	Happiness	.32	.09	.27	3.65	.005*
	Global Self esteem	1.56	.34	.43	4.67	.005*
	Performance self esteem	-.68	.31	-.17	-2.19	.03*
	Social self esteem	-.18	.24	-.05	-.74	.46
	Appearance self	.31	.28	.08	1.07	.29

esteem					
Extraversion	.36	.44	.05	.82	.41
Agreeableness	.55	.55	.06	1.02	.31
Conscientiousness	.52	.47	.07	1.11	.27
Emotional Stability	1.09	.49	.15	2.20	.03*
Openness to Experience	2.48	.57	.26	4.40	.005*
Energetic Arousal	-.04	.30	-.01	-.13	.90
Tense Arousal	-.48	.32	-.12	-1.49	.14
Hedonic Tone	-.15	.30	-.04	-.50	.62

* level of significance of < .05

Table .14 - Hierarchical Regression Model of EI

			ANOVA				R^2				
	Dependent Variable	Independent Variable	F	df (regression)	df (residual)	Sig.	R^2	F Change	df1	df2	Sig. F Change
Model 1		Happiness	93.23	1	142	< .001	.40	93.23	1	142	< .001
Model 2		Happiness, Global Self esteem	75.30	2	141	< .001	.52	35.02	1	141	< .001
Model 3		Happiness, Global Self- esteem, Social self- esteem, Performance self- esteem, Appearance self esteem	30.24	5	138	< .001	.52	.61	3	138	.61
Model 4	Emotional Intelligence	Happiness, Global Self- esteem, Social self- esteem, Performance self- esteem, Appearance self-esteem, Agreeableness, Openness to Experience, Conscientiousness, Extraversion, Emotional Stability	21.11	10	133	< .001	.61	6.24	5	133	< .001
Model 5		Happiness, Global Self- esteem, Social self- esteem, Performance self- esteem, Appearance self-esteem, Agreeableness, Openness to Experience, Conscientiousness, Extraversion, Emotional Stability, Energetic Arousal, Tense Arousal, Hedonic Tone	16.42	13	130	< .001	.62	.92	3	130	.43

Model 1 of the analysis was conducted to determine the effect of happiness on EI. When adding happiness as a predictor in the regression model, there was a significant change in the R^2 of the regression model (F (1, 142) =93.23, $p < .001$). This indicated that happiness had a significant effect on EI. The model fit in terms of R^2 of the generated hierarchical regression model was .40 which indicated that happiness explains 40% of the variance in EI.

Model 2 of the analysis was conducted to determine the additional effects of global self-esteem on EI. Global self-esteem was added in the regression model as predictors of EI. When adding global self-esteem as a predictor in the regression model, there was a significant change in the R^2 of the regression model (F (1, 141) = 35.02, $p < .001$) with a significant addition of .12 in the R^2 of the regression model. This indicated that happiness had a significant effect on EI. The model fit in terms of R^2 of the generated hierarchical regression model was .52 which indicated that the happiness and global self-esteem explains 52% of the variance in EI.

Model 3 of the analysis was conducted to determine the additional effects of self-esteem variables of performance self-esteem, social self-esteem, and appearance self-esteem on EI. The self-esteem variables of performance self-esteem, social self-esteem, and appearance self-esteem were added in the regression model as predictors of EI. When adding the three self-esteem variables as predictors in the regression model, there was non-significant change in the R^2 of the regression model (F (3, 138) = 0.61, p = .61). This indicated that combined effects of the three self-esteem variables of performance self-esteem, social self-esteem, and appearance self-esteem to EI were non-significant.

Model 4 of the analysis was conducted to determine the additional effects of personality traits of extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience on EI. The five personality traits were added in the regression model as predictors of EI. When adding the five personality traits as predictors in the regression model, there was a significant change in the R^2 of the regression model (F (5, 133) = 6.24, p < .001) with a significant addition of .09 in the R^2 of the regression model. This indicated that the personality traits of extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience have significant effects on EI. The model fit in terms of R^2 of the generated hierarchical model was .61 which indicated that happiness, global self-esteem, and the personality traits explains 61% of the variances of in EI.

Model 5 of the analysis was conducted to determine the additional effects of mood variables of energetic arousal, tense arousal, and hedonic tone on EI. The three mood variables were added in the regression model as predictors of EI. When adding the three mood variables as predictors in the regression model, there was no significant change in the R^2 of the regression model (F (3, 130) = .92, p = .43). This indicated that combined effects of the three mood variables of energetic arousal, tense arousal, and hedonic tone to EI were non-significant.

In terms of the significance of the individual effects of each of the independent variables, the results in the final hierarchical regression model showed that only happiness (t (143) = 3.65, p < .001), global self-esteem (t (143) = 4.67, p < .001), the state self-esteem variable of performance self-esteem (t (143) = -2.19, p = 0.03), and personality traits of emotional stability (t (143) = 2.20 p = 0.03) and openness to experience (t (143) = 4.40, p < .001) have significant effects or

relationships to EI. These were the only *p*-values less than the level of significance value of .05.

The unstandardised beta coefficient was analysed to determine the independent contribution and the relative importance of these five independent variables to EI. The unstandardised coefficient values (beta) of the happiness (.32), global self-esteem (1.56), personality traits of emotional stability (1.09) and openness to experience (2.48) were positive, indicating a positive contribution while the beta value of state self-esteem variable of performance self-esteem (-.68) was negative, indicating negative contribution or effects on EI. These suggested that EI will increase if there is more happiness, global self-esteem, emotional stability, and openness to experience, while EI will decrease if there is higher performance self-esteem. For every one increase in the scores of happiness, global self-esteem, personality traits of emotional stability and openness to experience, the scores in EI will increase by .32, 1.56, 1.09, and 2.48, respectively. For every one increase in the performance self-esteem score, the score in EI will decrease by .68. The regression equation may be presented as: Emotional Intelligence = 42.09 + 0.32 Happiness * + 1.56 * Global Self-esteem - .68 * Performance self-esteem + 1.09 * Emotional Stability + 2.48 * Openness to Experience.

In summary of this part of the analysis, the predictor variables of EI have been identified as happiness, global self-esteem, performance self-esteem, emotional stability and openness to experience. Notably, performance self-esteem was found to have a negative effect on EI whilst the remaining predictor variables have a positive effect. The opportunity to investigate beyond these findings led to the consideration to see whether EI can have a mediating or moderating role in these relationships so as to add additional and new information to the

understanding of EI. Thus the attempt is made to examine all possible relationships of the identified predictors, including performance self-esteem. The results of the mediation and moderation analyses will be presented next.

4.5.3 Testing for Mediation and Moderation

The aim of this investigation is to examine whether EI has a mediating or whether it has a moderating role when combined with other predictors. Generally, such investigation would involve the inspection of related theories to see whether a variable like EI is expected to be a mediator or moderator. In line with choosing the hierarchical regression, it made sense from a theoretical viewpoint to explore one analysis for mediation and one for moderation, checking theories to see whether a variable is a mediator or moderator would be difficult to conduct through the employment of one specific test procedure. Therefore, the assumption is made, on the basis of literature related to EI, that both methods will be employed and the results analysed individually. Unquestionably, it is recognised that mathematically it is possible that EI may turn out be both, a mediator and moderator.

Following the reasoning (4.5.2) for choosing happiness in preference to self-esteem as the first variable to be entered, the aim was to continue with an approach that considers the influence of literature. In the effort to go beyond considering whether EI could be a predictor and to extend existing literature, the decision was made to investigate whether EI has a biasing or mediating role, in other words, whether it has a synergistic or moderating relationship when combined with other predictors.

In exploring this question, literature showed that it was not uncommon that the terms were used interchangeably (Baron & Kenny, 1986) and, to name a few, that EI had been investigated as a moderator in stress-

burnout relationships (Gőrgens-Ekermans & Brand, 2012) and job insecurity (Jordan, Ashkanasy, & Hartel,2002ü) by utilising a questionnaire method. Applying the same method, the mediating effect of job satisfaction and EI had also been investigated (Güleryüz, Güney, Aydin, & Asan, 2008). Thus, in searching for a reliable method so as to further this area of investigation and to examine whether EI is a mediator or moderator when using a small sample of participants, the bootstrapping method (Preacher & Hayes, 2008) for the former and the moderation regression model were utilised for this study.

It is recognised that overall, a moderator can be a quantitative variable like race or class or a qualitative variable like a level of reward that affects the direction or strength of the relationship between an independent or predictor and a dependent or criterion variable. The mediator, however, is a given variable that may function as a mediator so as to account for the relationship between the predictor and the criterion.

In the application of both, numerous different associations can be explored and effect and causality can be understood. Nonetheless, precise predictor and outcome variables had to be selected and similarly to the considerations relating to the hierarchical regression, decisions were influenced by literature and those were chosen that closely connected EI, happiness and well-being

4.5.3.1 Testing for Mediation

Mediation analysis was tested by utilising the bootstrapping method with bias-corrected confidence estimate. The 95% confidence interval of the indirect or

mediating effect of EI was obtained with 5000 bootstrap resamples (Preacher & Hayes, 2008). The results of the mediation analysis will be presented in form of individual tables numbered 4.5 – 4.14.

Table .15 - Results of mediating effects of EI on the relationship between happiness and global self-esteem

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Happiness	.0982	.0247	3.9690	.0001	.0493	.1471

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
EI	.0923	.0190	.0589	.1336

The analysis showed that EI only had a partial mediation in the relationship between happiness and global self-esteem.

Table .16 - Results of mediating effects of EI on the relationship between happiness and performance self-esteem

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Happiness	.0864	.0282	3.0693	.0026	.0308	.1421

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
EI	.0417	.0218	-.0019	.0823

The analysis showed a non-significant mediating role of EI in the relationship between happiness and performance self-esteem. Thus the variable is not a mediator.

Table .17 - Results of mediating effects of EI on the relationship between happiness and emotional stability

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Happiness	.0485	.0147	3.3074	.0012	.0195	.0774

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
EI	.0265	.0106	.0064	.0480

The analysis showed a partial mediating role of EI in the relationship between happiness and emotional stability.

Table .18 - Results of mediating effects of EI on the relationship between happiness and openness to experience

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Happiness	-.0110	.0125	-.8819	.3793	-.0356	.0136

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
EI	.0334	.0089	.0181	.0531

The analysis showed a significant mediating role of EI in the relationship between happiness and openness to experience.

Table .19 - Results of mediating effects of EI on the relationship between global self-esteem and performance self-esteem

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Self-esteem	.5884	.0794	7.4069	.0001	.4314	.7454

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
EI	-.0043	.0569	-.1110	.1131

The analysis showed a non-significant mediating role of EI in the relationship between global self-esteem and performance self-esteem. Thus the variable is not a mediator.

Table .20 - Results of mediating effects of EI on the relationship between global self-esteem and emotional stability

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Self-esteem	.1301	.0477	2.7267	.0072	.0358	.2244

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI

EI	.0931	.0322	.0353	.1629

The analysis showed a partial mediating role of EI in the relationship between global self-esteem and emotional stability.

Table .21 - Results of mediating effects of EI on the relationship between global self-esteem and openness to experience

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Self-esteem	-.0466	.0400	-1.1640	.2464	-.1257	.0325

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
EI	.1145	.0299	.0610	.1788

The analysis showed a significant mediating role of EI in the relationship between global self-esteem and openness to experience.

Table .22 - Results of mediating effects of EI on the relationship between performance self-esteem and emotional stability

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Performance self-esteem	.1283	.0426	3.0146	.0030	.0442	.2124

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI

EI	.0791	.0267	.0359	.1420

The analysis showed a partial mediating role of EI in the relationship between performance self-esteem and emotional stability.

Table .23 - Results of mediating effects of EI on the relationship between performance self-esteem and openness to experience

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Performance self-esteem	.0849	.0354	2.4022	.0176	.0150	.1548

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI
EI	.0498	.0203	.0167	.0964

The analysis showed a partial mediating role of EI in the relationship between performance self-esteem and openness to experience.

Table .24 - Results of mediating effects of EI on the relationship between emotional stability and openness to experience

Direct effect of X on Y

	Effect	SE	t	*p*	LLCI	ULCI
Emotional Stability	-.1246	.0681	-1.8278	.0697	-.2593	.0102

Indirect effect of X on Y

	Effect	Boot SE	BootLLCI	BootULCI

EI	.1597	.0489	.0765	.2680

The analysis showed a significant mediating role of EI in the relationship between emotional stability and openness to experience.

To reflect on the direct and indirect effects and the overall outcome of the above analysis, in the display of the tables 4.5-4.14, the total effect represents the direct and indirect effect of X on Y combined whereas, when the effect of X on Y is partitioned off, the direct effect is when the mediator is included in the model. The indirect effect is the measure of what is being mediated and therefore termed mediation effect. For example, when calculating the mediating effects of EI on the relationship between happiness and global self-esteem in table 4.5, X represents happiness and Y represents global self-esteem with EI being the mediator. As stated, the analysis showed that in this case EI only had a partial mediation in this relationship.

Following this closer examination, EI shows not to be a mediator between happiness and performance self-esteem (4.6) and global self-esteem and performance self-esteem (4.9). When examining the mediating effects of EI on the relationship between happiness and emotional stability (4.7), the analysis showed only a partial mediating role for EI in this relationship whereas the results of mediating effects of EI on the relationship between happiness and openness to experience (4.8) showed EI to have a significant mediating role.

Similarly, the analyses showed only partial mediating effects of EI for the relationship between global self-esteem and emotional stability (4.10),

performance self-esteem and emotional stability (4.12), and performance self-esteem and openness to experience (4.13).

Unlike the results so far the analyses of the mediating effects of EI showed a significant mediating role in the relationship between global self-esteem and openness to experience (4.11) and emotional stability and openness to experience (4.14).

In summary therefore, the analysis shows EI to have a significant mediating role only between happiness and one of the personality variables, open to experience; furthermore, between global self-esteem and open to experience, which was also identified as being mediated by EI with another personality variable, namely emotional stability. It is interesting to note that open to experience has been found to be part of each of the significant mediating models. A finding which may be considered for further investigation, presently, the primary research objective is to establish wether EI can have a mediating or moderating role.

4.5.3.2 Testing for Moderation

A moderation regression model was conducted to determine the moderation effects of EI on the relationships of the independent variables, the results will now be presented in form of a number of tables from 4.15 – 4.24.

Table .25 - Results of moderation effects of EI on the relationship between happiness and global self-esteem

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std.	Beta		

			Error			
1	(Constant)	-51.66	13.58		-3.81	.00*
	Happiness	.56	.12	1.76	4.57	.00*
	Emotional Intelligence	.48	.09	1.75	5.09	.00*
	Happiness * EI	-.003	.001	-2.49	-3.84	.00*

Note. F (3, 141) = 53.70, p < .001, R Square (R2) = .53, N =144

a. Dependent Variable: Global Self esteem

b. Predictors: (Constant), Happiness * EI, Emotional Intelligence, Happiness

The analysis showed that EI had a significant negative moderation effect on the relationship of happiness with global-self-esteem

Table .26 - Results of moderation effects of EI on the relationship between happiness and performance self-esteem

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.76	16.22		-.11	.91
	Happiness	.16	.15	.53	1.06	.29
	Emotional Intelligence	.11	.11	.43	.97	.33
	Happiness * EI	.00	.001	-.40	-.48	.63

Note. F (3, 141) = 13.28, p < .001, R Square (R2) = .22, N =144

a. Dependent Variable: Performance self-esteem

b. Predictors: (Constant), Happiness * EI, Emotional Intelligence, Happiness

The analysis showed that the moderation effect of EI on the relationship of happiness with performance self-esteem was non-significant.

Table .27 - Results of moderation effects of EI on the relationship between happiness and emotional stability

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.36	8.45		-.28	.78
	Happiness	.05	.08	.32	.65	.51

	Emotional Intelligence	.04	.06	.27	.64	.53
	Happiness * EI	.000	.001	-.02	-.02	.98

Note. F (3, 141) = 17.06, $p < .001$, R Square (R2) = .27, N =144

a. Dependent Variable: Emotional Stability

b. Predictors: (Constant), Happiness * EI, Emotional Intelligence, Happiness

The analysis showed that the moderation effect of EI on the relationship of happiness with emotional stability was also non-significant.

Table .28 - Results of moderation effects of EI on the relationship between happiness and openness to experience

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.22	7.08		2.72	.01*
	Happiness	-.14	.06	-1.13	-2.19	.03*
	Emotional Intelligence	-.05	.05	-.50	-1.09	.28
	Happiness * EI	.001	.00	1.78	2.06	.04*

Note. F (3, 141) = 9.44, $p < .001$, R Square (R2) = .17, N =144

a. Dependent Variable: Openness to Experience

b. Predictors: (Constant), Happiness * EI, Emotional Intelligence, Happiness

*Significant at level of significance of .05

The analysis showed that EI had a significant positive moderation effect on the relationship of happiness with openness to experience

Table .29 - Results of moderation effects of EI on the relationship between global self-esteem and performance self-esteem

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.83	10.03		2.57	.01*

	Global Self-esteem	-.07	.36	-.08	-.21	.84
	Emotional Intelligence	-.14	.07	-.54	-1.85	.07
	Self-esteem * EI	.01	.002	1.15	1.91	.06

Note. F (3, 141) = 33.26, $p < .001$, R Square (R2) = .41, N =144

a. Dependent Variable: Performance self-esteem

b. Predictors: (Constant), Self-esteem * EI, Emotional Intelligence, Global Self-esteem

*Significant at level of significance of .05

The analysis showed that the moderation effect of EI on the relationship of global self-esteem with performance self-esteem was also non-significant.

Table .30 - Results of moderation effects of EI on the relationship between global self-esteem and emotional stability

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.25	6.10		.21	.84
	Global Self-esteem	.06	.22	.12	.28	.78
	Emotional Intelligence	.02	.05	.18	.55	.59
	Self-esteem * EI	.001	.001	.23	.34	.74

Note. F (3, 141) = 15.64, $p < .001$, R Square (R2) = .25, N =144

a. Dependent Variable: Emotional Stability

b. Predictors: (Constant), Self-esteem * EI, Emotional Intelligence, Global Self-esteem

The analysis showed that the moderation effect of EI on the relationship of global self-esteem with emotional stability was non-significant.

Table .31 - Results of moderation effects of EI on the relationship between global self-esteem and openness to experience

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std.	Beta		

			Error			
1	(Constant)	13.54	5.06		2.68	.01*
	Global Self-esteem	-.37	.18	-.93	-2.03	.04*
	Emotional Intelligence	-.02	.04	-.16	-.45	.65
	Self-esteem * EI	.002	.001	1.30	1.82	.07

Note. F (3, 141) = 9.31, $p < .001$, R Square (R2) = .17, N =144

a. Dependent Variable: Openness to Experience

b. Predictors: (Constant), Self-esteem * EI, Emotional Intelligence, Global Self-esteem

*Significant at level of significance of .05

The analysis showed that the moderation effect of EI on the relationship of happiness with openness to experience was non-significant.

Table .32 - Results of moderation effects of EI on the relationship between performance self-esteem and emotional stability

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.34	5.95		1.91	.06
	Performance self-esteem	-.42	.25	-.78	-1.68	.10
	Emotional Intelligence	-.04	.04	-.28	-.93	.35
	Performance Self-esteem * EI	.004	.002	1.41	2.22	.03*

Note. F (3, 141) = 18.51, $p < .001$, R Square (R2) = .28, N =144

a. Dependent Variable: Emotional Stability

b. Predictors: (Constant), Performance Self-esteem * EI, Emotional Intelligence, Performance self-esteem

*Significant at level of significance of .05

The analysis showed that emotional intelligence had a significant positive moderation effect on the relationship of performance self-esteem with emotional stability.

Table .33 - Results of moderation effects of EI on the relationship between performance self-esteem and openness to experience

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.24	5.00		2.05	.04*
	Performance self-esteem	-.20	.21	-.46	-.93	.35
	Emotional Intelligence	-.01	.03	-.13	-.40	.69
	Performance Self-esteem * EI	.002	.001	.92	1.36	.18

Note. F (3, 141) = 10.45, $p < .001$, R Square (R2) = .18, N =144

a. Dependent Variable: Openness to Experience

b. Predictors: (Constant), Performance Self-esteem * EI, Emotional Intelligence, Performance self-esteem

*Significant at level of significance of .05

The analysis showed that the moderation effect of EI on the relationship of performance self-esteem with openness to experience was non-significant.

Table .34 - Results of moderation effects of EI on the relationship between emotional stability and openness to experience

Model		Unstandardised Coefficients		Standardised Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.02	3.59		3.35	.00*
	Emotional Stability	-1.05	.42	-1.33	-2.52	.01*
	Emotional Intelligence	-.01	.03	-.05	-.22	.83
	Emotional Stability * EI	.01	.003	1.47	2.25	.03*

Note. F (3, 141) = 10.78, p < .001, R Square (R2) = .17, N =144

a. Dependent Variable: Openness to Experience

b. Predictors: (Constant), Emotional Stability * EI, Emotional Intelligence, Emotional Stability

*Significant at level of significance of .05

The analysis showed that EI had a significant positive moderation effect on the relationship of emotional stability with openness to experience.

Note was taken that some of the moderation analyses showed a highly significant model, but none of the coefficients were significant. This is not uncommon in regression analysis; the F statistic and the individual results can sometimes give inconsistent results. This is to confirm that there was no significant moderation effect in tables 4.16, 4.17, 4.20. To conclude this part of the statistical analyses, a summary of the results is presented in table 4.25 and 4.26.

Table .35 - Summary of the mediation analyses

Full Mediation
Happiness and openness to experience
Global self-esteem and openness to experience
Emotional stability and openness to experience
Partial Mediation
Happiness and global self-esteem
Happiness and emotional stability
Global self-esteem and emotional stability
Performance self-esteem and emotional stability
Performance self-esteem and openness to experience

Table .36 - Summary of the moderation analyses

Significant moderation effect
Happiness with openness to experience
Performance self-esteem with emotional stability
Emotional stability with openness to experience
Significant negative moderation effect
Happiness with global-self-esteem

In summary of the overall statistical analyses presented in this part of the study, the correlational findings identified significant positive associations between EI and happiness, self-esteem and personality with one of the mood measures-tense arousal, significant at a negative level. The strongest predictor variables that had a positive effect were identified as happiness, global self-esteem, the personality variables emotional stability and openness to experience, with performance self-esteem having a negative effect. In an effort to exceed previous investigations, these relationships were then further explored to see whether there exist also mediating or moderating relationships utilising two separate methods to investigate. EI was found to have a mediating and moderating role which suggests that as a mediator EI can explain the relationship between two variables, for example, happiness and openness to experience and as a moderator EI influences the strength of that relationship.

Following this detailed outline of the results, the findings will be explored further in the discussion presented next which includes the attempt to also draw upon existing literature.

4.6 Discussion

This discussion will firstly present the evaluation of the findings from the correlation analysis, followed by the findings from the hierarchical regression and the identified predictor variables to complete with the mediator and moderator analysis. As the study of EI is still at a rudimentary stage, the attempt is made to explore all possible associations and draw upon existing literature so as to present a thorough and detailed evaluation.

The strongest relationship was identified between EI, happiness and global self-esteem. Supporting this relationship are the results from the state self-esteem measures. Positively correlated within the medium range, they would suggest that participants with high levels of EI and global self-esteem were recording positive levels of self-esteem at the time of completing the test. In general, these findings extend research studies that describe EI as an eclectic mix of traits (Bar-On, 2004; Petrides & Furnham, 2001). As mentioned, there has been evidence in support of a strong correlation between EI and self-esteem (Schutte et al., 2002). The investigators found that higher levels of EI were not only associated with higher self-esteem but also with positive moods. Similarly, higher EI together with higher self-esteem were found to be associated with greater happiness (Sillick & Schutte, 2006).

In this study, the self-esteem scores present the strongest effect in the correlations and as a predictor variable. Similarly, the results show that measured levels of EI are also strongly correlated with happiness. These results may well contribute to an emerging understanding of the underlying processes between EI, self-esteem and happiness that contribute to a sense of well-being. Indeed, some

have argued that trait EI is conceptually and empirically related to happiness and well-being (Palmer, Donaldson, & Stough, 2002; Petrides & Furnham, 2001; Saklofske et al., 2003). Others suggested that feelings of self-worth relate to emotional well-being (Lourdes & Pena, 2011) Although there are relatively few studies of happiness that explore primarily its relationship with EI, the results of this study lend support to the suggestion that a positive association between trait EI and happiness has been recognised including predictability (Furnham & Petrides, 2003; Furnham & Christoforou, 2007). The strong association between EI and happiness found in the present results is also congruent with previous research that investigated EI and happiness with well-being (Austin, Saklofske & Egan, 2005). Interestingly, the association between EI and measures of well-being has been reported by both trait and ability measures. However, self-report measures, prominent with measures of trait EI, have reported more robust correlations.

As the results indicate strong correlations between EI, global self-esteem and happiness, this may indicate that high levels of EI are closely associated with feelings of cheerfulness, satisfaction with life and self-confidence. However, this could also be misleading in that the results question the distinctiveness of EI. For example, the overlaps between the variables were found to be quite large, which may imply that it is unclear what is actually being measured here. The question of overlap between EI and other constructs has been discussed by Zeidner et al., (2009), who are concerned that most conceptualisations of EI in literature suggest some overlap with other constructs but fail to be specific as to how large such overlap should be for EI to remain independent. This becomes even more relevant when aiming to identify EI as part of personality, particularly when searching to identify facets of personality over and above present measures.

The remaining relationships with EI concern the measures of mood and personality which predominantly display correlations of medium, even smaller strengths with the exception of the negative correlation between tense arousal and hedonic tone, which represents the largest correlation in this data. It is recognised that no firm conclusions can be drawn from these results, nonetheless, for the benefit of exploring the EI construct, some tentative suggestions can be offered for future consideration. For example, reflected in the interpretation of the results presented here, are the classifications as suggested by the subscales of the UMACL (Matthews et al., 1990). Energetic arousal, happiness and EI were found to be negatively correlated with tense arousal which may suggest that those variables are related to calmness and being relaxed and composed. Energetic arousal correlated positively with hedonic tone which indicates moderate feelings of overall pleasantness and alertness, whilst the tense arousal values may be associated here with lower EI values. The tense arousal correlations are invariably negative because, generally speaking, increases in other mood dimensions are seen as positive, while increases in tension tend to be seen as indicating stress or ‘uptightness’.

As mentioned, EI researchers have been particularly attracted by the idea of changing moods via internal regulation through the application of thought processes, although Zeidner et al., (2009) warn that some now view the ability to successfully regulate mood as a defining feature of EI, however, empirical evidence remains inconclusive. At best, there is a general agreement that it seems likely that mood represents a component of EI. The results of the present study showed that there were no strong associations between EI and positive mood or indeed support for research into mood induction that presented strong evidence to that effect (Petrides & Furnham, 2003; Schutte et al., 2002; Zeidner

et al., 2009). It may be possible to speculate that this partly reflects differences in research questions and design, or it supports the suggestion that certain features like mood should not be included into models of EI because they do not seem to concern emotion, intelligence or their intersection as argued by Matthews, et al., (2004). After all, moods are intrinsically unstable and change because of cognitions and physiology, for example, time of day or blood glucose and it may be that EI needs to correlate with more stable dimensions. Additionally, as Murphy and Sideman (2006) argue, EI researchers may well try to cover too many different concepts and traits including mood or indeed self-esteem. However, following the earlier comments about overlap of constructs, the results would suggest that mood and EI represent two very distinct constructs, not neglecting that moods, as indicated above, are changeable over mere minutes compared with, for example, personality type attributes which have stability over time; thus, although they may be related their differing temporal characteristics will undermine a high correlation. Whilst recognising that a high correlation between EI and mood is unlikely, there have been noteworthy efforts to investigate the relationship that EI may have with mood to determine the factors that influence mood variability (Matthews et al., 2004). Furthermore, EI and mood states have been found to be associated with optimal or indeed, dysfunctional performance in sport (Lane et al., 2009).

In relation to the personality measures, all showed significant positive correlations with EI, although for extraversion, agreeableness and conscientiousness associations were relatively small. Emotional stability and openness to experience were found to be within the medium level of strengths with emotional stability being the strongest. The data shows that EI correlates positively overall with each of the personality measures and implies that, as a construct, EI

remains distinctive, suggesting that moderate levels of EI may be associated with positive, calm emotions that foster imagination and ideas with a sense of competence, yet compliance.

However, the present results do not always support research findings, particularly those which had found stronger, significant positive correlations between EI and extraversion (Saklofske et al., 2003; Schutte et al., 1998; Petrides & Furnham, 2001). In general, high levels of extraversion have been associated with high levels of EI in most trait oriented studies. Of the initial personality measures, for extraversion there is a moderate positive association with happiness whilst associations with performance, social and global self-esteem as well as emotional stability can be found at the small strength level. This may suggest that warmth and positive emotions are associated with happiness and feelings of positive self-worth whilst experiencing a small sense of self- consciousness.

Agreeableness which reflects trust and compliance, among others, correlated positively with hedonic tone, appearance self-esteem and emotional stability and negatively with tense arousal. This would suggest that traits like trust and compliance may be related to pleasant, calm yet vulnerable feelings whilst having a positive sense about own appearance. The strongest association with conscientiousness in the initial correlation data is performance self-esteem followed by global self-esteem and openness to experience. The data suggests that competence and self-discipline may be associated with a positive feeling about own performance and general self-worth with a sense of values and ideas.

Emotional stability was found to be positively associated with happiness, all self-esteem measures and two mood measures, energetic arousal and hedonic tone

with a significant but negative correlation with tense arousal. Associations with extraversion and agreeableness have been mentioned before and this may be interpreted as forming associations between happiness and feelings of calmness whilst energetic, with a small sense of vulnerability and strong feelings of self-worth. Openness to experience was found to be positively associated with happiness, performance self-esteem and global self-esteem and conscientiousness, which would suggest that imagination or ideas are associated with happiness and self-worth generally and in relation to performance self-esteem. As mentioned above, emotional stability together with openness to experience was found to be strongly associated with EI; whether these findings suggest that EI can be distinguished from the personality traits is not clear, but as Petrides and Furnham (2003) have suggested, EI may well consist of a set of traits not necessarily covered by traditional personality traits, for example, emotional functioning and regulation.

This part of the discussion aimed to present a full account of the associations between the variables even when correlations were weaker in an effort to discuss the concepts involved and dissect information as to what the relationships might mean or indeed why they exist and how they compare with literature so far. Nonetheless, in relation to mood the effort was made to explain the lower correlations with EI by way of highlighting EI's probable need to correlate with more stable dimensions. In relation to personality, this may be due to the measuring tool which was relatively brief and chosen for the convenience of time which is recognised as a probable limitation. Following this detailed discussion, the next part will discuss the findings of the multiple regression analysis: a hierarchical approach prior to the exploration of the results of the moderation and mediation analysis.

The analysis of the hierarchical regression procedure identified five predictor variables that were found to have significant explanatory power to explain EI. These are happiness, global self-esteem, emotional stability and openness to experience with state performance self-esteem having a negative effect. The results show happiness and global self-esteem to be the strongest predictors of EI, findings that support the literature to date. For example, one of the first studies (Furnham & Petrides, 2003) to examine the relationship between trait EI and happiness found that EI explained over 50% of the total variance in happiness. This positive relationship persisted in the presence of the five personality traits, although, Matthews et al., (2002), had argued that personality traits remain the most robust predictors of happiness not EI, also as argued by Myers and Diener (1995), so did extraversion and neuroticism. It may be prudent to remember here that the term neuroticism has been replaced by emotional stability in the Big Five measure utilised in this study.

Interestingly, the findings also support the suggestion that research has shown that EI is significant in predicting a number of real-life outcomes (Frederickson & Furnham, 2004) in relation to happiness. This is particularly evident in the occupational and health field and most studies that have examined trait EI as a possible determinant of happiness have concluded that it predicts at least various components of happiness (Extramera & Fernandez-Berrocal, 2005). Nevertheless, whilst those studies focused on how EI determines happiness, no study so far focused on EI in association with multiple variables, an effort that should be beneficial for the applied field because it brings together a number of variables important in day-to-day life and thus relevant at work and in education, areas that will be further explored in the next chapter.

Similarly to happiness studies, EI in relation to self-esteem has been widely investigated and these studies also reflect different views depending on their respective theoretical approaches. Typically, this study utilises a questionnaire approach for the assessment of EI, whilst recognising that self-esteem forms part of the construction of that very questionnaire (TEIQue-SF). Nevertheless, however limited, there has been evidence in support of a strong relationship between EI and self-esteem and this study aimed to go beyond the identification of self-esteem as a predictor by investigating whether EI exists as a mediator or moderator in this relationship, as will be further explored later.

Performance self - esteem was also identified as a predictor, together with emotional stability and openness to experience. Whilst performance self-esteem can usually be interpreted as supporting global self-esteem results in strengthening a sense of general competence, there is no evidence in literature to compare this present finding with. The result of this study may suggest that the level of general competence which includes, among others, self-confidence and efficacy, may well predict EI at a negative level and this may well suggest that individuals concerned with their own performance might have less concern for others.

The two personality traits, emotional stability and openness to experience have been shown to relate highly to EI and have been identified as predictors although emotional stability and extraversion have more often than not been associated with high levels of EI, not openness to experience. In this study, the result would suggest that the tendency to be independent and imaginative, among others, predicts levels of EI. Overall, the relationship between EI and personality has been extensively investigated, to name but one study (Petrides at al., 2007) as

being typical of trait oriented studies: applying a hierarchical regression to investigate the predictive power of trait EI, the results showed that EI incrementally predicted four criteria over the Giant Three and five criteria over the Big Five. As the present study did not investigate specifically one variable but focussed on multiple variables, the results may not be as strong as the aforementioned results, they nevertheless are relevant to the wider understanding of the relationship between EI and personality.

Within the context of this specific study, to investigate whether EI has a mediating role or whether it has a moderating role was considered to offer additional and new insight into EI beyond present knowledge. Primarily, EI has been investigated in relation to its association with happiness, self -esteem and personality or its predictive role, more recently for example, as a predictor of socio emotional outcomes in early adolescence (Frederickson et al, 2012) or in relation to its role in predicting anxiety (Weaving et al., 2014). Studies investigating EI's role as a mediator or moderator are limited, in the occupational field the moderating role of EI has been explored in relation to job performance and stress studies (Gorgens-Ekermans, 2012; Jordan et al., 2002), and the mediating role of EI in personality studies or as part of investigations that explore the relationship between EI and adaptive outcomes (Matthews et al., 2012). The findings from the present study are uncommon in that they involved the investigation of mediation and moderation by utilising the same data following the identification of a small number of predictor variables through the employment of a hierarchical regression analysis.

In this investigation a number of possible relationships were investigated whilst it had been recognised that mathematically EI may well be analysed as a mediator

and moderator providing the opportunity to examine both outcomes in an effort to produce original of research. The results showed that EI was identified as having a full mediation role in the relationship between happiness and openness to experience, global self-esteem and openness and emotional stability and openness to experience whilst there was only a partial mediation in the remaining relationships. It is interesting here to note that each relationship involved the personality variable openness to experience which positively involves the tendency to be imaginative, independence and the interest in variety. This may suggest that happiness, self-esteem and emotional stability are positively mediated by EI for a person with such personality traits. As suspected, EI was also found to have a moderating role similar to its mediating role in the relationship between happiness and openness to experience and emotional stability and openness to experience as well as performance self-esteem and emotional stability. Whilst recognising that performance self-esteem was identified as having a negative effect as a predictor, two of the relationships also involved openness to experience. It may be prudent at this point to remember the moderator-mediator variable distinction. The moderator variable, as a qualitative or quantitative variable affects the strength and/or direction of the relation between an independent or predictor variable and a dependent or criterion variable whereas the mediator is the one that explains the relationship between the two variables.

With reference to the present study EI as the mediator variable would explain the relationship between the two other variables, for example, happiness and openness to experience, EI as the moderator variable would influence the strength of the relationship between those two other variables. Although the decision to investigate if a specific variable has a mediating or moderating role is

commonly decided separately and a priori on the basis of theoretical knowledge, this study attempted to investigate whether EI can have either role by conducting two separate analyses. The results of these two analyses indicate that EI can be a mediator or moderator, a result that may benefit from further investigation as will be suggested in Chapter Six when considering suggestions for future research. Presently, this specific component of the research is viewed as part of the effort to explore in detail all possible relationships between EI and the predictor variables.

4.7 Chapter Summary and Concluding Comments

To summarise, whilst the all-encompassing aim of this research is to contribute to the general field of EI research and to the efforts to establish a science of EI, the primary aims of this part of the study have been to identify a cluster of psychological variables that are associated with each other and supposedly related to EI and to investigate whether EI can be predicted. Thus, it was broadly hypothesised that there will be significant positive correlations between EI and happiness, self-esteem, mood and personality, and that a number of variables would then be identified as predictor variables for EI and to investigate whether EI has a mediating or moderating role. The formulation of the first part of the research questions was based on the literature investigated to date pertaining to questions of the distinctiveness of the EI construct, measurements and the association between EI and other variables.

The most robust results showed that there are significant positive correlations between EI, happiness and self-esteem lending support to research findings most commonly associated with trait oriented studies. The results also showed

happiness, global self-esteem, performance self-esteem, emotional stability and openness to experience as predictor variables. Exceeding present literature, the role of EI as a mediator and moderator was investigated and found to have both roles, for example, in the relationship between happiness with openness to experience and emotional stability with openness to experience.

To conclude, as theory development is on-going, the results are potentially useful in that they can contribute to the present efforts to establish what constitutes EI so as to establish a science of EI. They strengthen existing findings by offering empirical evidence concerning the associations between EI, happiness and self-esteem, evident in the correlation and hierarchical regression analysis. Nonetheless, the mediation and moderation analyses presented results that may be viewed as contributing most to the efforts to explain what constitutes the construct of EI. Together with the work-related descriptors which led to a new definition, the results of these analyses add new original ideas to the efforts of building a science of EI. As part of this effort of theory building and establishing what constitutes EI, the area of investigation in most need of scientific credibility is probably the applied field. Hence the next chapter will closely examine present interventions that have utilised EI as a theoretical framework in a variety of training initiatives.

Chapter 5 – A Study to Investigate Whether Levels of Emotional Intelligence will be Enhanced as a Result of an Experimental Intervention

5.0 Introduction

The purpose of this part of the study was to investigate further the relationship between EI, happiness, self-esteem, personality and mood and EI's potential in an applied setting. Whilst every effort had been made to include all aforementioned variables in this investigation, those variables most strongly associated with EI were most closely considered. Therefore, the primary aim of this investigation was to examine whether levels of EI, happiness and self-esteem increase when applying an experimental design of pre and post intervention measures to a number of training programmes. This part of the study consists of three training interventions presented in two studies:

- Study one comprises two experimental and one control group.
- Study two comprises one experimental and one control group.

The theoretically grounded training programmes centred on progressive relaxation and positive thinking. The benefits of progressive relaxation can be traced to the theories of Jacobson (1938) who posited the idea of learning to monitor the tensions in each muscle so as to reduce stressful feelings and physical pressure. Since then countless studies have suggested that relaxation equals an emotional state when body and mind are free of tension and anxiety.

The most effective programmes are grounded in the idea of mind – body integration and involve an array of techniques including not only muscle relaxation but also mental imagery and cognitive restructuring to name a few.

Alongside this notion, Fredrickson (2000) suggested that such relaxation practices have shown that they cultivate positive emotions, and the EI literature is replete with suggestions that individuals with high levels of EI are more aware of their emotions and able to regulate them effectively whilst experiencing lower levels of distress (Salovey et al., 1999)

Likewise, high levels of EI have been found to be associated with the tendency to experience fewer negative and more positive emotions (Mikolajczak et al., 2008). How those positive emotions, like all emotions, are experienced depends largely on how the individual thinks, the interpretation of events, and the ideas that evolve (Fredrickson, 2009). Thus, the programmes proposed for this study are founded on ideas concerning the theoretical interplay between emotions and thinking.

In the first instance, however, this chapter scrutinises the extent to which existing research has produced empirical evidence that EI can be enhanced through applied and targeted training. Whilst there are increasing numbers of EI training interventions available, very few appear to be founded upon recognised theoretical models or include rigorous testing methods (Matthews et al., 2002). Frequently, there is a lack of methodological rationale and inadequate evaluations, indeed, to date there are only a small number of interventions that can claim to have applied a controlled design or utilised an empirically-derived EI training.

5.1 Introduction to the Study

This study aimed to move beyond the limitations of existing research, to assess whether a training intervention, appropriately designed and executed, will enhance levels of EI and associated variables. This exploration was undertaken via a number of experimental studies in order to manipulate a series of dependent variables and thus induce positive change. Employing the same tests as previously, the design for each of the two experimental interventions differs foremost in relation to the intervention activity. Eclectic in its approach, during study one, the first intervention required participants to take part in a programme of multimodal relaxation, and the second intervention required participation in a programme of positive thinking. Study two offered an extended positive thinking programme and a non-demanding reading task was utilised as a control for both studies. Each study is presented individually comprising its independent outline.

5.2 Theoretical Considerations of EI Enhancement Through Training Intervention

5.2.1 Introduction

Most interventions to date have aimed to enhance some aspects of EI in terms of social, interpersonal or soft skills training (Chamorro-Premuzic, 2013). This trend appears to have been motivated by the growing number of scientific investigations which attempted to measure the effects of EI on academic or occupational success, quality of life, stress and health (Nelis et al., 2009). Among these, a positive association between trait EI and well-being was identified (Petrides, Pita & Kokkinaki, 2007) along with a negative association with

psychopathology (Malterer, Glass & Newman, 2008). Student academic performance has also been positively associated with EI, with individuals with higher levels of trait EI consistently achieving higher test scores and grades (Jaeger, 2003).

5.2.2 Occupational Training Interventions

As a result of these and similar findings, including those presented earlier, interventions designed to increase levels of EI have emerged, particularly within education, inside occupational settings and with individuals experiencing affective difficulties (Matthews et al., 2002). Despite a reasonable effort to expand EI intervention programmes in order to enhance levels of EI, little empirical research has yet tested whether such enhancement is actually possible.

Although marginally outside the scope of this study, but related to EI training, it is important here to recognise that the focus on social-emotional learning was in fact brought to the foreground in schools and organisations (Mayer & Cobb, 2000) with some programmes for children recording positive outcomes (Zins, Payton, Weissber, & Utne O'Brien, 2007). Among the most rigorously researched intervention programmes has been the Promoting Alternative Thinking Strategies (PATHS), with its focus on promoting specifically emotional competencies (Greenberg, Kusché & Riggs, 2004). The programme covers emotional understanding, self-control, building self-esteem, relationships and interpersonal problem-solving skills. Findings show significantly improved social cognitions and increased levels of socially competent behaviour in regular and special education students (Riggs, Greenberg, Kusché, & Pentz 2006).

Similar to interventions in education, it is recognised here that there is a growing interest in therapy to utilise emotion focussed training programmes to address emotional dysfunction (Greenberg 2006, 2011). EI has not to date been linked to specific processes that promote mental well-being clinically; nor have there been any empirical reports of major innovations in therapy (Vachon & Bagby, 2007). Nevertheless, there have been substantial efforts to produce empirical evidence to demonstrate that EI correlates robustly with well-being and more frequent positive affect alongside higher levels of life-satisfaction and self-esteem (Zeidner et al., 2009). These studies do not, however, include training interventions. In general, it is difficult to locate intervention programmes for adults other than in occupational psychology where a growing dissatisfaction with populist IQ testing has fuelled a growing impetus towards workplace interventions. The reasoning in support of EI initiatives emerges from an assumption that IQ measures do not capture every facet of human intelligence (Sternberg 2000) and that IQ levels are unlikely to change whereas it is argued by some that EI levels can in fact increase with targeted practice and training (Mayer, Salovey, Caruso, & Sitarenios, 2001).

The reason why studies from occupational psychology are commented upon here centres on the notion that the workplace is one of the best environments for examining how the enhancement of EI can be tested with adults (Cherniss & Goleman, 2001), whether the motivation for this is to promote productivity or indeed health and wellbeing. The workplace seems particularly suitable because emotional competences (Boyatzis et al., 2000) influence, among others, decision making and helping behaviour and much of this learning around emotion management in adults takes place at work; this includes the development of self-

confidence, empathy and social skills such as ability to get along with others (Boyatzis, 1982).

It is recognised here that the workplace may have been a preferred location for the implementation of the relaxation and thinking programme, not only because of the literature which will be outlined next but also because of the work-related behaviours that participants identified as salient features of EI in study 1.

The most pertinent reason for this decision relates, however, to an organisational restriction by which the university encouraged the use of first year psychology students as participants to offer those students the experience of taking part in an experiment. The students were able to gain credits which in turn formed the basis for their own experimental studies. This is recognised as a possible weakness, however, evidence of EI training interventions in the workplace is drawn upon in this investigation and, as stated before, work-related terms had been identified as features of EI in study 1, and this provided an opening to investigate opportunities for interventions in areas so far unexplored.

Hence, the design of subsequent interventions in this study aimed to focus on a content that generally impacted on EI levels as measured by the TEIQue-SF. In the first instance, the idea was borne out of the suggestion that high levels of EI have been associated with positive emotions, which in turn can be cultivated via relaxation techniques. With regard to the positive thinking intervention, the content offered the opportunity to experience the enhancement of EI more directly. The overall aim was to design contents based on known findings, in this case from the occupational field, for interventions that were hitherto not documented.

Attempts to produce empirical evidence for the enhancement of EI at work via training intervention will now be presented and some of their achievements and limitations will be highlighted and linked to the rationale for this study which will particularly refer to an extensive empirical review (Groves, McEnrue & Shen, 2010), because this work explores in some depth the deliberate development of EI among potential and actual leaders. The review places extant research within major EI theories through an examination of a number of models and measures. It suffices to acknowledge here that these models include the ability model measure (MSCEIT: Mayer et al, 2000) and a number of mixed models (EC-2: Goleman et al., 1995; EIQ: Dulewicz and Higgs, 1999; EQ-1: Bar-On, 1997). The results of Grove et al.'s review (2010) recorded that post-test scores increased in almost all studies and this result did not seem to depend on the duration of training; only 2 of the 12 studies reported non-significant pre and post-test differences, although the results did not demonstrate whether EI could be increased through training.

Nonetheless, all the studies reviewed represent a range of approaches and efforts to embrace and enhance EI, and two of those are of particular interest to this study. The first advocates a targeted training approach, and the other presents a more experiential approach. Murray and Lawrence (2006) argue that emotional skills can be changed through targeted EI training (EIT). Two experimental groups (n=62 and n=163) completed the Work Group Emotional Intelligence Profile (WEIP-6), pre and post training. The instrument used in this approach is based on the MSCEIT (Mayer & Salovey, 2000) and measures perception and appraisal of emotions along with the regulation of emotions. This is a measure that assesses EI within a single context, for example, within a particular work group. The participants received either the interpersonal skills

(IST) or the emotional intelligence (EIT) training intervention. The control group did not undergo training and completing the instrument three times, they had matched Time 1 through Time 3 scores. The results demonstrated no significant change in the total WEIP-6 or the two scales that test own versus others' emotions for the control group or the group that received IST. However, a significant increase in the scores was generated from the EIT participants. The findings suggest that EI can be enhanced through targeted training when compared with training in interpersonal skills. This may suggest that the interpersonal aspect of EI is less crucial to EI overall, although within the context of the reported study, this may also reflect the design of the measurement tool and its concentration on perception, appraisal and regulation of emotion within a particular work group. Whilst it is feasible that similar questions may well arise in relation to the proposed intervention, these are more likely to apply to the positive thinking intervention where interpersonal aspects of EI will be more prominently experienced.

The second study utilises relational and behavioural skills (Murray, Jordan & Hall-Thompson, 2005) within a training design programme that involves experiential behaviour modelling. The study embraces a number of theories involving concepts of self-awareness, leadership, personality, work-life balance and trust building, and it draws strongly upon the work of Covey (1990), Senge (1990) and Wheatley (1992). Therefore, the theoretical framework for this study brings together the idea of character ethics and aligning one's values with universal timeless principles, with a positive belief in the idea of a learning organisation, influenced by individual empowerment, free flowing information and organic change. Participants (n=206) took part in a four-day training programme and EI was measured by the WEIP-6; significant differences in pre-and post-scores were

recorded suggesting that EI can increase when applying training that focuses on relational and behavioural skills.

Overall, Grove et al.'s (2010) review identified a number of limitations where key information regarding the training effort was omitted or one or two elements of the research design were unclear. Of the 12 training programmes that were investigated, three were limited because of unreliability of the measurement of EI's skills, knowledge and ability. Other limitations included poor descriptions of the training programme and small sample sizes of 15 and 25 compared with 168, as documented by Groves et al., (2010). Nevertheless, the review was able to validate some improvement in levels of EI and demonstrate the potential benefit of EI intervention programmes, whilst applying appropriate methods of investigation.

To date, there has been much criticism concerning EI interventions and there has been sufficient evidence to suggest that most training programmes lack a clear theoretical and methodological rationale. Also, psychological bases are not always clear and repeated assessment and training effect over time is lacking (Zeidner et al., 2009). A further concern is that not all programmes actually test the EI training that has been implemented (Caruso & Wolfe, 2001), and as Zeidner et al. (2004) pointed out, as part of the problems for the use of EI in occupational settings, it is not always clear to what extent statistically significant or non-significant scores are reported. Other problems concerned the failure to offer an adequate theoretical rationale for EI's use in the occupational setting. Nonetheless, there have been some recent changes in the field of application that are worth examining in detail.

5.2.3 Laboratory Based Training Interventions

Despite the lack of rigour in occupational based training interventions, a number of studies have emerged recently that demonstrate a commitment to the implementation of programmes that are based on solid theoretical models and rigorous testing, as a result primarily of being laboratory based. The first of those studies (Nelis, Quoidbach, Mikolajczak, & Hansenne, 2009) will be outlined in some detail because it marks a major change in the approach to exploring how far levels of EI can actually be enhanced. This and a number of follow-up studies that will be presented, come from the same school of thought that re-defined EI in terms of emotional competence (EC) as mentioned in the literature review. As a brief aide mémoire, a tripartite model of EI has been proposed (Mikolajczak et al., 2009) termed EC; the model postulates three levels of EI, knowledge, abilities and trait. It has been recognised nonetheless that the model is in need of further research to investigate the dissimilarities between the terms EI and EC. In the study of Nelis et al. (2009) the primary goal is to focus upon enhancement of EI and to investigate whether it can be improved among young adults. It explores how far a theoretically based training programme impacts on different components of EI and whether the expected changes post- intervention depend on the initial EI scores. Such studies recognise the importance of social-emotional learning for children and extend their findings to adults (Zins et al., 2004).

The intervention comprised four sessions totalling 10 hours, conducted at the University of Liége. It utilised primarily French speaking participants and its measures included the French version of the Trait Emotional Intelligence Questionnaire (TEIQue: Petrides et al., 2009). Own and others' emotions were

assessed separately, with the former utilising the Emotion Regulation Profile Questionnaire (ERP-Q: Mikolajzak et al., 2008), and the latter the Emotional Management Abilities test (EMA: Freudenthaler et al., 2005; French adaptation by Nelis 2007). Interestingly, emotion identification was measured utilising two tests, the Dimension of Openness to Emotional experiences- trait version (DOE: Reicherts, 1999 and the Toronto Alexithymia Scale TAS-20: Bagby et al., 1994; French adaptation: Loas et al., 1996). Initially, the incentive for training was influenced by Mayer and Salovey's four-branch model (in Elias et al., 1997): perception, appraisal and expression of emotion; emotional facilitation of thinking; understanding and analysing of emotion; reflective regulation of emotion. Thus, the study focused on a range of emotions rather than a specific one like, for example, happiness. The sample comprised 37 participants, 19 were placed in the training group and 18 into the control group. The latter remained inactive, but completed the same measures as the training group. Training content included short lectures, role-play, group and one-to-one discussions and readings. Participants also completed a daily diary recording their emotional experience.

The results demonstrated that the scores for trait emotional intelligence (TEIQue) post-intervention were significantly higher for the training group as compared with the control group. Specifically, significant positive changes were found for emotion identification and management (self and others), but not for understanding emotions. Probably the most important finding compared with other research attempts is that all positive changes remained significant after six months. Whilst this study is unique in its application of a proper experimental design and testing methods, it also exhibits some limitations in that the sample was relatively small. More relevant still is the inactivity of the control group, where participants were not exposed to alternative activities. Although major

generalisation of the results is not feasible, taken together the results do seem to demonstrate that facets of EI as formalised by the authors can be enhanced.

There were two follow-up studies relevant to the present investigation. Both apply the term EC when discussing EI, and, therefore, suggest a view of EI that offers a tentative bridging of the trait and ability approach for future investigations. For the purpose of clarity, it is recognised that the term EC refers to a tripartite model of EI (Nelis et al., 2009), although in the present investigation the terms EI and EC are employed interchangeably. As outlined before, there are a number of reasons for this related to its trait orientation and consistent application of the TEIQue measure. The first of the follow-up studies (Kotsou, Nelis, Grégoire, & Mikolajczak, 2011) continued to include a non-active control group and aimed to investigate a number of EI related goals and as previously attempted (Nelis et al., 2009), the study investigated whether levels of EC could be enhanced and whether this enhancement resulted in better mental, physical and social adjustment. The study also aimed to explore whether such results can be maintained long-term and whether this would lead to a reduction in stress-hormone secretion (levels of cortisol). Seventy two participants were recruited for the experimental and sixty for the control group. In total the programme comprised 15 hours of direct contact, over two initial days and one half-day session two weeks after commencement. The training was followed up by a one-month internet communication and participants received twice weekly e-mails, encouraging them to apply their newly acquired skills.

This training intervention was based on behavioural and experiential teaching methods, these included group discussion and role-play but also self-observation based on well-researched theoretical studies (Bandura, 1997). Participants learn

to influence their relations through how they manage their emotions, the behavioural triggers and beliefs. They learn how to effectively apply emotion regulation strategies. In addition to the TEIQue-SF (Petrides, 2009) this study also measures life-satisfaction (SWLS: Diener et al., 1985) and perceived stress (PSS: Cohen et al., 1983). The overall diurnal profile of cortisol (AUC) was assessed to obtain objective measures of stress and the remaining tests included measures of somatic complaints, quality of relationships and cognitive ability. Participants completed these measures immediately before commencement of training (time 1), one month after (time 2) and six months after the intervention (time 3). The results support the notion that EC can be enhanced and that there are significant benefits for psychological, somatic and social adjustments. These findings were accompanied by a decrease in perceived and actual stress, somatic complaints and improvement in the quality of social relationships. The limitations of this study are recorded by the authors who list, among others, the use of a non-active control group and the recruitment of only decidedly motivated participants. They suggest that future research might investigate whether less motivated groups may benefit from such intervention.

The second follow-up study (Nelis et al., 2011) builds on earlier research into EC enhancement through relatively brief training and additionally investigates the possibility of long-term personality changes. This investigation offers the results of two studies, and whilst the first applies the same method of a non-active control group, the second study utilises an Improvisation Drama Intervention activity in addition to an active control group. The test selection for the first study reflects the research goal of investigating personality changes. Therefore, in addition to the global EI measure (TEIQue), Emotion Regulation was measured using the Emotion Regulation Profile -revised (ERP-R: Mikolajcczak et al., 2008),

and Emotion Understanding was evaluated by selected items of the Situational Test of Emotional Understanding (STEU: MacCann & Roberts, 2008).

Personality was measured by the NEO-FFI-R (McCrae & Costa, 2004) which is based on the five-factor model (FFM: Costa & McCrae, 1992). The intervention employed training techniques similar to those in Nelis et al.,'s (2009) study. In an attempt to generate credible results for subsequent analyses, the training comprised either three six-hour sessions or six three-hour sessions timed at different intervals to allow for application and further learning to take place. Each session focussed on the enhancement of a particular competence ranging from the understanding of emotions, identifying and regulating own and others' emotions and using positive emotions to foster well-being. To support the learning and acquisition of new knowledge and skills, diary records of one positive emotional experience per day were analysed applying the newly gained theory knowledge. Regular e-mails offering reminders of the theory knowledge further underpinned the learning process.

The results showed an immediate increase in levels of extroversion, a progressive increase in agreeableness and decrease in neuroticism, all of which remained significant at the post six-month measure. Interestingly, a mediation analysis suggests that those changes were at least partly mediated by an increase in EC levels. There was found to be a significant increase in overall EC, emotion understanding and regulation in the training group immediately following completion of the programme and at the post six-month point.

To test these findings, the experiment was replicated and thus offers the results of the second study of this investigation with the inclusion of psychological,

somatic, social and work adjustment indicators. Measures for social functioning and employability were designed specifically for this study, whilst the former aimed to assess the quality of relationships and perceived social support via a test consisting of 17 questions scored on a seven-point scale, the latter included a set of questions during a video recorded interview that was analysed via a panel of judges who allocated scores for employability. The aggregated scores provided the overall employability score.

The remaining measures included the Brief Symptom Inventory (BSI: Derogatis & Melisarato, 1983) for the assessment of mental disorders and the Physical Inventory of Limbic Languidness (PILL: Pennebaker, 1982) for somatic complaints. Levels of happiness and life-satisfaction were assessed utilising the Subjective Happiness Scale (SHS: Lyubomirsky & Lepper, 1999) and the Satisfaction with Life Scale (SWLS: Diener at al., 1985) respectively. The pre – and post EC measure included the short form version of the TEIQue, the TEIQue –SF (Petrides & Furnham, 2006), in addition to the trait EI questionnaire 360-short form (TEIQue 360˚-SF: Petrides, Niven, & Mouskounti, 2006) to include an informant-report of global EC. Emotion regulation was assessed as in study one utilising the ERP-revised (Nelis at al., 2008).

Whilst the intervention for Nelis et al.,'s (2011) study had been modelled on Kotsou et al.,'s (2011), the former included an active control group engaged in six three-hour improvisational theatre sessions. The activity design included warm-up, basic exercises, group improvisation and debriefing with an emphasis on acquisition of new knowledge and skills, similar to the initial EC training design. The results were consistent with previous findings in that levels of EC increased significantly compared with the drama improvisation programme and the inactive

control group. The findings are of particular interest in relation to personality which is usually thought of as remaining stable. The results here show an increase in extroversion and agreeableness along with a progressive reduction in neuroticism; this would support the view that personality is actually unstable, changing and malleable (Roberts, Wood, & Smith, 2005). Developing EC also led to a number of other positive changes, for example, improvement in physical and mental health, increased levels of happiness and life-satisfaction, global social functioning and employability. The investigators conclude that their last study, which builds upon previous findings of EI enhancement, demonstrates "how rigorous, evidence-based EC training can lead to sustainable improvements of emotional functioning, long-term personality changes and important positive implications in various life domains" (Nelis et al., 2011, p. 364).

5.2.4 Summary of Section

Taken together, the results of the studies outlined above show that levels of EI can be enhanced through the application of targeted, yet brief, training interventions. Studies from the occupational field have been offered because it represents a major area where investigations have focussed on adult samples only. Care was taken to restrict reporting of findings to examples with some theoretical and methodological rationale. The recent changes in EI interventions have been reported in detail because of their application of solid theoretical groundings and rigorous testing methods. This becomes particularly evident within the last few studies because of their controlled designs.

Allowing for the influence of an inactive control group on results, these studies also recognised the importance of social-emotional learning for children and were

able to extend the findings of these studies (Zins et al., 2004) to the adult population outside the work environment by testing assumptions in a laboratory setting. Nelis et al., (2011) offer a number of considerations for future research by recognising some of the limitations of their own studies. Foremost, participants were predominantly female and highly motivated to engage in self-change. Also, trainers differed for the different groups. In the first instance, follow-up studies might consider generating a more heterogeneous sample and include less receptive participants and build in an evaluation of the impact of different trainers on the training outcome. The findings therefore, although small in number, are important because they provide opportunities for further investigations into EI's changeability.

5.3 Rationale for Conducting the First Study

5.3.1 Introduction

Motivated by the findings of the studies outlined above and having identified that this is a research area that has not yet been fully explored, the present study aimed to produce empirical evidence to show whether levels of EI can be changed as a result of an experimental intervention. It was of particular interest here to continue the exploration of EI and its relationship with happiness, self-esteem, personality and mood. Specifically, this study explored whether happiness and self-esteem, the variables most strongly associated with EI in the correlation and regression analysis, are similarly related as a result of an experimental intervention.

5.3.2 Rationale and General Aims

In response to the findings outlined above, the overall goal was to apply a controlled design and rigorous testing methods to this investigation, in order to generate credible results that will take forward the potential of EI, and possibly add to the bank of existing training strategies. As Matthews et al., (2012) argue, such future training strategies can be valuable "for enhancing the competencies in understanding and managing emotion that are necessary for adaptive self-regulation" (p. 247). Research support for the potential application of EI based training comes also from studies investigating possible neurological deficits and positive outcomes at a practical level. The first refers to present studies investigating structural and functional changes in the brain that may be associated with EI development (Nelis et al., 2011). This involves measures of emotional processing and is built upon the evidence that regular meditation changes brain activity (Brefczynski-Lewis, Lutz, Schaefer, Levinson, & Davisdon, 2007), and the finding that CBT (Cognitive Behavioural Therapy) can modify dysfunctional neural circuitry associated with anxiety (Goossens, Sunaert, Peeters, Griez, & Schruers, 2007) or depression (Schaefer, Putnam, Benca, & Davidson, 2006). In relation to practical applications, evidence suggests positive outcomes in the area of health, social relationships, performance and psychological well-being (Greven, Chamorro-Premuzic, Arteche & Furnham, 2008; Smith, Heaven, & Ciarrochi, 2008).

This study, therefore, attempts to add to existing knowledge by further investigating the impact of a training intervention upon EI enhancement. To achieve this, relaxation and positive thinking activities were tools used to explore whether levels of EI, happiness, self-esteem, mood and personality can be

changed through the application of a theoretically grounded training intervention. To date, the two activities, relaxation and positive thinking, have not been investigated in relation to EI within a controlled experiment, although it is recognised that both areas have been researched extensively, particularly with regard to therapeutic and counselling practices. Suffice to say, the relaxation and positive thinking techniques applied in this study have emerged primarily from investigation into therapy and counselling practices as both share common ground in considering emotional functioning.

The term ‘relaxation technique’ is often used synonymously with therapeutic relaxation and as with positive thinking techniques it includes a host of different and often diverse approaches. For this study, a multimodal relaxation programme (Palmer, 2008) and a training programme specifically designed for this intervention had been selected for application. They were thought to be suitable for investigating EI because a number of studies from the field of stress management (Cartwright & Cooper, 1996; Matthews et al., 2004) have shown that well-designed and implemented training programmes produce significant improvement in coping and health outcomes. Of these the most effective programmes teach participants a range of techniques like muscle relaxation and deep breathing.

In general, Multimodal Relaxation as part of progressive relaxation refers to a technically eclectic but theoretically consistent approach (Lazarus, 2005; Palmer, 2008). The multimodal orientation assumes that a number of discrete but interactive modalities will be considered: Behaviour, Affect, Sensation, Imagery, Cognition, Interpersonal factors, and Drug/Biological (Lazarus: BASIC ID, 1973). The basic framework of the BASIC ID, which initially formed part of a multimodal

therapy in the assessment of clients, appeared to be most suitable for treatment and relaxation. Thus, the latter was advanced by Palmer (1993) in the development of the multimodal relaxation script utilised in this study. This psycho-educational framework encourages the recognition of individual differences and the need for individually tailored programmes, characteristics that equally apply to the design of this training programme. Based on theoretically sound teaching practices (Mortiboys, 2012) that advocate teaching with EI, the programme promotes learner involvement, engagement and autonomy and employs an eclectic approach by using a range of teaching approaches and methodologies including positive responses to individual learners' changed needs. This adaptation of eclecticism as an empirically based approach (Beutler & Consoli, 1992) allows for the selective combination of the best techniques regardless of their theoretical origin, in its attempt to bring together relaxation and positive thinking techniques for the purpose of operationalising a programme that aims to investigate possible changes in the levels of EI and associated variables.

5.3.3 The Primary Aims of the Study

Therefore, the primary aims of this study were, firstly, to demonstrate whether levels of EI can be enhanced as a result of a relaxation programme or a specifically designed experimental intervention and, secondly, to continue the quest to contribute to the on-going investigations into the science of EI.

5.4 Methodology

5.4.1 Introduction

The method for each of the two experimental conditions and the control group employed the same design, method of recruitment and test materials. Each procedure differs in relation to content and activity but not timing. The design, statistical tools utilised in this study, participants and shared materials will each be presented, followed by the procedure details of each experimental condition and the control group separately, including respective session outlines to demonstrate similarities and differences of content. The designated terms for each of the groups are progressive relaxation (PR) for the first experimental group, happiness (HA) for the positive thinking group and experimental control (CG, EX in graphs) for the third group.

5.4.2 Design

This experimental intervention study aimed to investigate whether levels of EI, happiness, self-esteem, personality and mood can change as a result of an experimental intervention that involves relaxation techniques and positive thinking exercises. The unrelated design incorporated two experimental and one control condition and incorporates pre- and post-test scoring:

Experimental condition 1	Progressive Relaxation Programme (PR)
Experimental condition 2	Happiness through positive thinking Programme (HA)
Control Group	Non-demanding Reading Task Programme (CG)

5.4.3 Participants

In total, 90 participants completed the experiments in this study, 6.2 % were male, 54.1% female, 39.7% did not disclose their sex. The age ranged from 18 to 39, the mean age was 20.3 (s.d. = 4.1). An opportunity sampling method was used; participants were recruited from the body of undergraduate psychology students via messages on departmental notice boards and briefing sessions; they were randomly allocated to one of the three groups. Participants gained credits for taking part.

It is recognised here that almost 40% of participants did not declare their sex, which is acknowledged as a limitation and the reason why sex was not included as a variable in the analysis. The reason for this omission was not investigated but thought to be related to a particular need for confidentiality in an environment that was usually a classroom and limited time for relationships and trust to develop.

5.4.4 Materials

5.4.4.1 Recruitment Poster

The recruitment poster invited students to participate in the experiments; it briefly explained the aims of the study and requirements for participation (Appendix 5.1).

5.4.4.2 Summary Sheet for Briefing Sessions

Prospective participants who responded to the recruitment poster and attended a briefing session were presented with the following summary:

Good morning- thank you for attending this briefing session, I am looking for 90 participants for my study which investigates the relationship between Emotional Intelligence and well-being. I am specifically interested in finding out if well-being can be improved through a programme of relaxation or positive thinking. To this end, I am looking to recruit for three groups:

Group 1	Progressive Relaxation Programme
Group 2	Positive Thinking Technique Programme
Group 3	Reading Task Programme

You will be required to attend three sessions and complete six tests to generate pre and post scores for analysis. The duration of the first and last session is 45 minutes and the second is 30 minutes. The reason for the difference in timing is the requirement to complete the six tests listed below at the start and close of the programme:

1. Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 2009)
2. The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)
3. UWIST Mood Adjective Checklist – UMACL (Matthews, Jones, & Chamberlain, 1990)
4. The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)
5. Ten Item Personality Inventory – TIPI (Gosling, Rentfrow, & Swann, 2003)
6. Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)

All the information collected from this study is held in strictest confidence; each participant is identified by a number to ensure confidentiality and you are not

required to provide personal details, for research purposes it would be helpful if you could identify yourself as male or female and provide your age. Prior to participating in this study you will receive details about each procedure and you are required to sign the informed consent sheet. Are there any further questions? (Appendix 5.2)

5.4.4.3 Timetable for Groups

A number of different timeslots were offered to participants to ensure availability and facilitate continuity of attendance (Appendix 5.3).

5.4.4.4 Test Measures

The six tests applied pre and post intervention in this study are the same as previously used in study two. They are untimed, each presenting its own individual instructions. Through the application of the principle of randomisation, the sequences of the tests were varied to address possible order effects (Appendix 5.4).

5.4.5 Procedure

5.4.5.1 Procedure for the Combined Groups

Undergraduate psychology students were recruited via duplicate posters on noticeboards and briefing sessions. They each then attended a programme of progressive relaxation, positive thinking or non-demanding reading as part of the control group. There were three sessions in total, timed at 45, 30 and 45 minutes respectively, delivered over thirteen days, including Saturday and Sunday.

Participants completed all measures twice. Session 1 included the completion of the 6 tests at the start and session 3 at the close of the sessions. They were asked to sign a consent sheet and informed that they were not required to provide personal details; for research purposes they were told that it would be helpful if they could identify themselves as male or female and provide their age.

Participants were informed that the study utilises a number of experimental conditions and that the purpose of this was to generate pre-and post-intervention data through the application of six psychometric tests. They were reminded that the results would be available once the analyses were completed. Each procedure will now be presented separately presenting respective, relevant information.

5.4.5.2 Procedure for experimental condition 1: Progressive Relaxation (PR)

Following the recruitment process, participants were presented with an information sheet (Appendix 5.5) that outlined the PR programme. Once assembled, participants were thanked for taking part. They were assured that all the information collected was held in strictest confidence and that each participant was identified by a number to ensure confidentiality.

They were presented with a brief overview of relaxation and invited to ask questions as and when they required further information. This part of the presentation emphasised that the study utilises techniques from the field known as emotional relaxation and the suggestion that psychological well-being can improve through the use of relaxation techniques and that muscle relaxation was positively related to emotional relaxation (Jacobson, 1938, 1955).

The term multimodal relaxation (Palmer, 1993) was introduced so as to explain the relaxation script which would require participants to follow instructions that may allow them to experience varied feelings usually associated with levels of relaxation. Primarily applied in the field of counselling and more recently in coaching psychology (Palmer, 2008) this technique is applied in this study as an operationalisation criterion. The design of the script had been formed with the interactive modalities (Lazarus: BASIC ID, 1973) in mind although elements such as Sensation and Imagery have been utilised more than the others. The structures of the sessions were then outlined and participants were told the following:

- During the first session you will be required to complete six tests. I will then deliver a relaxation script which will allow you to experience different levels of relaxation. The session is timed for 45 minutes and will close with a reminder of the second session.
- The second session is timed for 30 minutes and will comprise the delivery of the relaxation script. As during the first session you will experience varying levels of relaxation. The session will close with a reminder of the third session.
- Session three, timed at 45 minutes, will comprise the delivery of the relaxation script immediately followed by the completion of the six tests which you completed during the first session. At the end of this session I will offer some information about relaxation if you are interested.
- Are there any questions? I will now ask you to sign the consent form, find below the details for date, time and place. Thank you for taking part in this experiment (Appendix 5.6)

Participants were informed that the relaxation script utilised for this part of the study, the 'Multimodal Techniques: Relaxation and Hypnosis' had been designed by Palmer, (1993). The script comprises 62 instructions incepted with timed pauses from 1-3 and 5-15 seconds duration and can be delivered in any physical environment to individuals or groups.

A brief extract of the script is presented here (see Appendix 5.14 for the full script):

> *"… by sitting comfortably on a chair, and close your eyes. If at any time during the exercise you feel any odd feelings such as tingling sensations, light-headedness, or whatever, this is quite normal. If you open your eyes then these feelings will go away. If you carry on with the exercise usually, these feelings will disappear anyway. If you would like to listen to the noises outside the room, first of all..."*
>
> Long pause
>
> *And now listen to the noises inside the room.*
>
> Pause
>
> *You may be aware of yourself breathing. These noises will come and go throughout this session and you can choose to let them just drift over your mind or ignore them if you wish.*
>
> Pause
>
> *Now keeping your eyelids closed and without moving your head, I would like you to look upwards, your eyes closed, just look upwards.*
>
> Long pause

Notice the feeling of tiredness.

Pause

And relax …"

At the close of the session, participants were invited to ask any remaining questions, they were reminded of the timing of each of the three sessions, assured again of confidentiality. A detailed outline of the individual sessions will be presented now.

5.4.5.2.1 Introduction to Session Outline

Prior to the start of session one, participants were thanked for taking part and the completion of the informed consent sheet was checked. Participants were reminded of the number and times of sessions and that they were able to withdraw at any time.

5.4.5.2.2 Session One

During the first part of the session, participants were required to complete the six tests; they were reminded that each test has its own instructions and asked to work through each swiftly. They were informed to start when instructed (Appendix 5.7) and to remain seated until everybody has completed their tests so that the relaxation activity can commence.

During the second part of the session, the relaxation script was delivered and participants were reminded of two key points: first, that some people relax faster

or experience deeper levels of relaxation than others, and secondly, that the activity will not interfere with the way people think. Post-delivery, participants were thanked and reminded of the date for the next session.

5.4.5.2.3 Session Two

Participants were thanked for returning to continue with this study. Again, participants were assured of confidentiality and reminded that in this session only the relaxation script would be delivered. Post-delivery, participants were reminded of the date for third and last session.

5.4.5.2.4 Session Three

During the first part of this session the relaxation script was delivered followed by the second completion of the six tests. As during session one, they were reminded that each test has its own instructions and invited to work through each test swiftly. They were invited to start when instructed and to remain seated until everybody had completed their tests.

Participants were thanked for taking part and reminded to get in touch if they would like to find out about the results.

5.4.5.3 Procedure for Experimental Condition 2: Happiness through Positive Thinking (HA)

Following the recruitment process, participants were presented with an information sheet (Appendix 5.8) that outlined the HA programme (see Appendix 5.15 for full programme). Once assembled, participants were thanked for taking

part. They were assured that all the information collected was held in strictest confidence and that each participant was identified by a number to ensure confidentiality.

They were presented with a brief overview of positive thinking and invited to ask questions as and when they required further information. They were informed that the study utilises techniques from the field known as emotional optimism which relates to M. Seligman, the author of Learned Optimism (1998) and Authentic Happiness (2003) and that the positive thought exercise aims to explore the power of positive and negative self-talk and allows participants to maximise their positive feelings. The structures of individual sessions were then outlined and participants were told the following:

- During the first session you will be required to complete six tests. I will then deliver a positive thinking exercise which will allow you to explore your positive and negative thoughts and self-talk. The session is timed for 45 minutes and will close with a reminder of the second session.

- The second session is timed for 30 minutes and will comprise the delivery of the concept of the internal critic. As during the first session you may experience varying levels of feelings, positive and negative. The session will close with a reminder of the third session.

- Session three timed at 45 minutes, will comprise the delivery of an exercise that supports positive change immediately followed by the completion of the six tests which you completed during the first session. At the end of this session I will offer some information about positivity if you are interested.

- Are there any questions? I will now ask you to sign the consent form, find below the details for date, time and place. Thank you for taking part in this experiment (Appendix 5.9)

Participants were informed that the programme was designed to be interactive and that they would be encouraged to explore their own strengths and to identify areas they would like to strengthen further. The wide range of teaching and learning strategies utilised for the study were mentioned which included discussions and one-to-one work. Participants were assured that each session would start and close with an appropriate summary and feedback. An overview of the programme headings was presented:

A. The effects of negative and positive emotions
B. The Self-Talk Cycle
C. The Internal Critic
D. Strengthening Exercises

At the close of the session, participants were invited to ask any remaining questions, they were reminded of the timing of each of the three sessions, assured again of confidentiality. A detailed outline of the individual sessions will be presented now.

5.4.5.3.1 Introduction to Session Outline

Prior to the start of session one, participants were thanked for taking part and the completion of the informed consent sheet was checked. Participants were

reminded of the number and times of sessions and that they were able to withdraw at any time.

5.4.5.3.2 Session One

During the first part of the session, participants were required to complete the six tests, they were reminded that each test had its own instructions and asked to work through each swiftly. They were invited to start when instructed (Appendix 5.10), and to remain seated until everybody had completed their tests so that the positive thinking activity could commence.

During the second part of the session activities focused upon positive and negative self-talk to demonstrate their respective effects on emotions. Participants were provided with a scenario and the ‘How do I feel’ exercise invited them to read six positive and six negative statements which were rated to reflect their feelings. This simple exercise demonstrated how individuals’ feelings can be influenced by a minor list of positive and negative statements. The self-talk cycle (adapted from Bagshaw, 2000) was introduced together with the explanation that within this context self-talk is viewed simply as anything that one can think about by way of talking to oneself. Participants were then encouraged to engage in a discussion about their feelings. At the end of the session participants were thanked and reminded of the date for the next session.

5.4.5.3.3 Session Two

Participants were thanked for returning to continue with this study. Again, they were assured of confidentiality and reminded of the previous session’s activity.

The concept of the internal critic was introduced and participants were encouraged to assess their own level of self-critic. This activity allowed participants to work alone to protect their privacy and ensure that they had the opportunity to engage at their chosen level of exploration. The session closed with the identification of one negative belief that participants wanted to change.

5.4.5.3.4 Session Three

At the start of the third session, participants were reminded of the previous activities and the request to identify one belief that could be changed. This part of the session closed with an exercise that supported potential change, followed by the presentation of positive emotional strategies. This was followed by the completion of the six tests for a second time. Participants were reminded that each test had its own instructions, and asked to work through each test swiftly. They were invited to start when instructed and to remain seated until everybody has completed their tests.

Participants were thanked for taking part and reminded to get in touch if they would like to find out about their results.

5.4.5.4 Procedure for Experimental Condition 3: Control Group (CG)

Following the recruitment process, participants were presented with an information sheet (Appendix 5.11) that outlined the programme for the control group. As in the procedures of the two experimental conditions outlined above, participants were thanked for taking part, assured of confidentiality and presented with a brief outline of the study. The activity for the control group was a non-

demanding reading task which utilised a number of leisure magazines (e.g. Hello; TV guide; OK; Cosmopolitan). Relative to this activity, participants were told the following:

- This part of the study requires you to undertake reading for leisure and not for your studies. A variety of magazines will be made available to you and electronic devices are not permitted during the test sessions

- During the first session you will be required to complete six tests. I will then instruct you to start your reading task. The session is timed for 45 minutes and will close with a reminder of the second session

- The second session is timed for 30 minutes and will comprise the reading task only. The session will close with a reminder of the third session.

- Session three timed at 45 minutes, will comprise the reading task immediately followed by the completion of the six tests which you completed during the first session. At the end of this session I will offer some information about the study if you are interested.

- Are there any questions? I will now ask you to sign the consent form, find below the details for date, time and place. Thank you for taking part in this experiment (Appendix 5.12)

At the end of the session, participants were reminded of the timing of each of the sessions and again assured of confidentiality. The activities of the programme involved the non-demanding task of reading for the same duration as the

previous programmes, the PR and the HA group, an outline of the sessions will be presented next.

5.4.5.4.1 Introduction to Session Outline

Prior to the start of session one, participants were thanked for taking part and the completion of the informed consent sheet was checked. Participants were reminded of the number and times of sessions and that they were able to withdraw at any time.

5.4.5.4.2 Session One

During the first part of the session, participants were required to complete the six tests, they were reminded that each test has its own instructions and invited to work through each swiftly. They were asked to start when instructed (Appendix 5.13) and to remain seated until everybody has completed their tests so that the reading activity could commence.

During the second part of the session, participants were required to read non-demanding material. It was specified that the reading task was for leisure only and did not include study material or electronic devices. A variety of leisure magazines were provided for this purpose and at the end of the session, participants were thanked and reminded of the date for the next session.

5.4.5.4.3 Session Two

Participants were thanked for returning to continue with this study. Again, participants were assured of confidentiality and reminded that in this session only

the reading task had to be completed, and at the end of the session participants were thanked and reminded of the date for the third and last session.

5.4.5.4.4 Session Three

During the first part of this session, the participants were required to read non-demanding material followed by the completion of the six tests for a second time. As during session one, they were reminded that each test has its own instructions and asked to work through each test swiftly. They were invited to start when instructed and to remain seated until everybody has completed their tests. The researcher was present throughout all sessions to ensure attention to the task.

Participants were thanked for taking part and reminded to get in touch if they would like to find out about the results.

5.5 Results

Each DV has been examined using a 2x3 mixed ANOVA. The means and standard deviations for each measure are presented in table 5.1.

Table .37 - Summary of means and standard deviations of pre- and post-scores for each scale

		Time Point	
Measure	**Group**	**Pre-**	**Post-**
TEI	PR	148.30 (21.39)	148.17(23.32)
	HA	139.83 (19.67)	146.97 (21.22)
	CG	148.30 (25.27)	145.57 (25.64)
OHQ	PR	117.97 (17.95)	123.83 (20.56)
	HA	120.03 (18.30)	126.20 (18.12)
	CG	118.93 (21.93)	120.87 (21.62)
UWIST-EA	PR	21.77 (4.12)	21.77 (4.65)
	HA	18.00 (5.80)	21.63 (4.51)
	CG	19.97 (5.02)	20.50 (5.43)
UWIST-TA	PR	16.67 (5.21)	13.03 (3.64)
	HA	18.13 (3.74)	15.03 (4.22)
	CG	15.87 (5.30)	14.43 (4.29)
UWIST-HT	PR	24.33 (5.81)	27.90 (3.32)
	HA	22.67 (5.17)	26.80 (4.11)
	CG	23.93 (6.44)	25.23 (4.63)
SSES –P	PR	23.83 (6.57)	26.40 (5.50)
	HA	23.47 (5.05)	25.30 (5.13)
	CG	26.43 (6.32)	26.70 (4.77)
SSES-S	PR	23.37 (7.46)	24.73 (5.69)
	HA	22.63 (5.670)	24.43 (5.91)
	CG	25.20 (6.83)	25.83 (6.00)
SSES-A	PR	18.23 (5.58)	19.21 (4.80)
	HA	17.83 (5.87)	19.50 (4.93)
	CG	20.00 (6.07)	19.50 (5.24)
TIPI-EX	PR	9.17 (2.56)	8.97 (3.15)
	HA	9.10 (2.67)	9.70 (2.25)
	CG	9.23 (3.07)	9.07 (2.75
TIPI-AG	PR	9.00 (2.64)	9.97 (2.50)
	HA	9.93 (1.84)	10.33 (1.84)
	CG	10.30 (2.10)	10.40 (2.06)
TIPI-CO	PR	10.13 (2.73)	10.43 (2.45
	HA	10.27 (2.46)	9.77 (2.33)
	CG	9.27 (2.99)	8.30 (3.09
TIPI-ES	PR	8.50 (2.79)	8.73 (2.73)
	HA	8.53 (2.45)	9.70 (2.73)
	CG	8.93 (3.33)	9.17 (2.27)
TIPI-OE	PR	11.07 (2.15)	10.43 (2.25)
	HA	9.60 (2.69)	10.00 (2.37)
	CG	10.97 (2.14)	10.60 (2.19)
RSE	PR	31.73 (5.70)	31.97 (5.82)
	HA	29.17 (4.57)	30.20 (5.42)
	CG	30.60 (6.22	31.37 (5.31)

*Note a: *p<.05*

Note b: list of abbreviations: TEI (Trait emotional intelligence) OHQ (Oxford happiness questionnaire), UWIST-EA (UWIST-energetic arousal), UWIST-TA (UWIST-tense arousal), UWIST-HT (UWIST-hedonic tone), SSES-P (State self-esteem scale -performance) SSES-S (State self-esteem scale -social) SSES-A (State self-esteem scale - appearance), TIPI-EX (TIPI- extraversion), TIPI-AG (TIPI – agreeableness), TIPI –CO (TIPI –conscientiousness), TIPI –ES (TIPI - emotional stability), TIPI-OE (TIPI -openness to experience), RSE (Rosenberg self-esteem scale.

The table shows that there were no significant differences between pre and post time point except for one salient trend: UWIST- energetic arousal means and standard deviation (pre 18.0(5.8) and post 21.6(4.5), a difference of 3.6(5.8).

5.5.1 Summary of ANOVAs

To generate the results, the overall aim has been to examine the group*time interaction as the most relevant interaction in this investigation, such result will be acknowledged by presenting the effect size and a figure. To calculate the proportion of the total variance that is attributed to an effect, the effect size is eta squared (η^2).

Data were approximately normally distributed for each level of group, as assessed by Normal Q-Q Plot. There was homogeneity of variance for pre- and post-intervention, as assessed by Levene's Test of Equality of Variances ($p>.05$).

5.5.1.1 Emotional Intelligence (EI)

Table .38 - Means and standard deviations for EI scores by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	148.30 (21.39)	148.17 (23.32)
HA	139.83 (19.67)	146.97 (21.22)
CG	148.30 (25.27)	145.57 (25.64)

There was no significant group*time interaction (F(2, 87) = 1.849, P = .164), no significant main effect of group (F(2, 87) = .451, P = .639) and no significant main effect of time (F(1, 87) = .429, P = .514) on the TEI score.

5.5.1.2 Oxford Happiness Questionnaire (OHQ)

Table .39 - Means and standard deviations for OHQ scores by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	117.97 (17.95)	123.83 (20.56)
HA	120.03 (18.30)	126.20 (18.12)
CG	118.93 (21.93)	120.87 (21.62)

There was no significant group*time interaction (F(2, 87) = .433, P = .650). Additionally there was no significant main effect of group (F(2, 87) = .274, P = .761). However, there was an overall main effect of time (F(1, 87) = 5,051, P = .027) on the OHQ score. The results suggested an increase in values from pre to post treatment in the group as a whole.

5.5.1.3 UWIST Energetic Arousal (UWIST-EA)

There was a significant group*time interaction (F(2, 87) = 3.860, P = .025), on the UWIST-EA score This suggests the change from pre to post treatment varies between groups. The HA group had the largest increase in scores, increasing from a mean of 18.0 pre-treatment to 21.6 post-treatment. The change was less in the two other groups, see figure 5.1. The effect size for the main effect of time is =.063(η^2). The effect size =.082(η^2) is the time by group interaction.

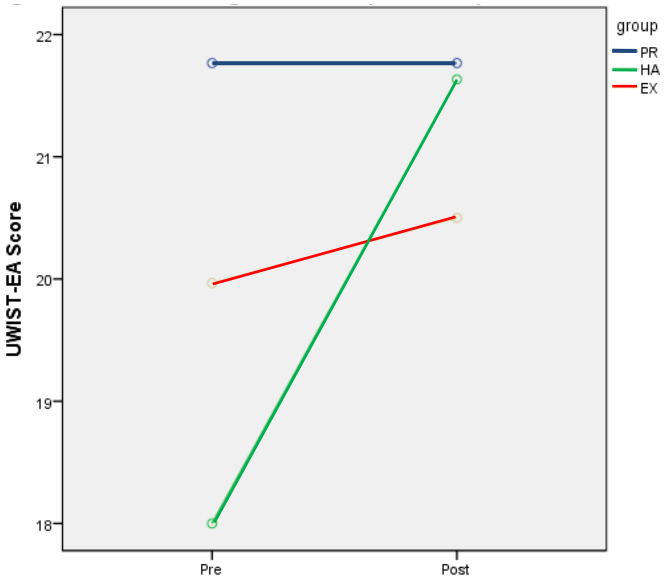

Figure .3 - UWIST Energetic Arousal (UWIST-EA) – the change from pre to post treatment

5.5.1.4 UWIST Tense Arousal (UWIST-TA)

Table .40 - Means and standard deviations for UWIST-TA by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	16.67 (5.21)	13.03 (3.64)
HA	18.13 (3.74)	15.03 (4.22)
CG	15.87 (5.30)	14.43 (4.29)

There was no significant group*time interaction (F(2, 87) = 1.254, P = .290). Additionally there was no significant main effect of group (F(2, 87) = 2.159, P = .122). However, there was a significant main effect of time (F(1, 87) = 21.17, P < .001) on the UWIST-TA score, for the group as a whole there was a change from pre to post-intervention. There was a general reduction in scores over time.

5.5.1.5 UWIST Hedonic Tone (UWIST-HT)

Table .41 - Means and standard deviations for UWIST-HT by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	24.33 (5.81)	27.90 (3.32)
HA	22.67 (5.17)	26.80 (4.11)
CG	23.93 (6.44)	25.23 (4.63)

There was no significant group*time interaction (F(2, 87) = 1.742, P = .181. Additionally there was no significant main effect of group (F(2, 87) = 1.380, P = .257). However, there was a significant main effect of time (F(1, 87) = 20.93, P < .001) on the UWIST-HT score suggesting an overall change from pre to post treatment for the group as a whole. There was a general increase in values over time.

5.5.1.6 State Self Esteem Scale Performance (SSES -P)

Table .42 - Means and standard deviations for SSES-P performance self-esteem by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	23.83 (6.57)	26.40 (5.50)
HA	23.47 (5.05)	25.30 (5.13)
CG	26.43 (6.32)	26.70 (4.77)

There was no significant group*time interaction (F(2, 87) = 1.218, P = .301), and also no significant main effect of group (F(2, 87) = 1.218, P = .203). There was a significant main effect of time (F(1, 87) = 6.407, P = .013) on the SSES-P score, suggesting an overall effect of time for the group as a whole. Scores generally increased from pre to post treatment.

5.5.1.7 State Self Esteem Scale Social (SSES -S)

Table .43 - Means and standard deviations for SSES-S performance self-esteem by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	23.37 (7.46)	24.73 (5.69)
HA	22.63 (5.67)	24.43 (5.91)
CG	25.20 (6.83)	25.83 (6.00)

There was no significant group*time interaction (F(2, 87) = .244, P = .784), no main effect of group (F(2, 87) = .338, P = .338) and no significant main effect of time (F(1, 87) = 3.373, P = .070) on the SSES-S score.

5.5.1.8 State Self Esteem Scale Appearance (SSES -A)

Table .44 - Means and standard deviations for SSES-A self-esteem by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	18.23 (5.58)	19.21 (4.80)
HA	17.83 (5.87)	19.50 (4.93)
CG	20.00 (6.07)	19.50 (5.24)

There was no significant group*time interaction (F(2, 87) = 1.820, P = .168), no significant main effect of group (F(2, 87) = .451, P = .619) and no significant main effect of time (F(1, 87) = 2.449, P = .121) on the SSES-A score.

5.5.1.9 Ten Item Personality Inventory Extraversion (TIPI-EX)

Table .45 - Means and standard deviations for TIPI-EX by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	9.17 (2.56)	8.97 (3.15)
HA	9.10 (2.67)	9.70 (2.25)
CG	9.23 (3.07)	9.07 (2.75)

There was no significant group*time interaction (F(2, 87) = .738, P = .481), no significant main effect of group (F(2, 87) = .163, P = .850) and no significant main effect of time (F(1, 87) = .065, P = .799) on the TIPI-EX score.

5.5.1.10 Ten Item Personality Inventory Agreeableness (TIPI-AG)

Table .46 - Means and standard deviations for TIPI-AG by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	9.00 (2.64)	9.97 (2.50)
HA	9.93 (1.84)	10.33 (1.84)
CG	10.30 (2.10)	10.40 (2.06)

There was no significant group*time interaction (F(2, 87) = 1.849, P = .444), no significant main effect of group (F(2, 87) = 2.032, P = .137) and no significant main effect of time (F(1, 87) = 3.034, P = .085) on the TIPI-AG score.

5.5.1.11 Ten Item Personality Inventory Conscientiousness (TIPI-CO)

Table .47 - Means and standard deviations for TIPI-CO by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	10.13 (2.73)	10.43 (2.45)
HA	10.27 (2.46)	9.77 (2.33)
CG	9.27 (2.99)	8.30 (3.09)

There was no significant group*time interaction (F(2, 87) = 2.010, P = .140) and no significant main effect of time (F(1, 87) = 2.223, P = .140). However, there was

a main effect of group (F(2, 87) = .451, P = .039) upon the TIPI-CO score. This suggests that for the two time periods combined, there was a difference between groups. The EC group had lower scores throughout than both the PR and HA groups.

5.5.1.12 Ten Item Personality Inventory Emotional Stability (TIPI-ES)

Table .48 - Means and standard deviations for TIPI-ES by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	8.50 (2.79)	8.73 (2.73)
HA	8.53 (2.45)	9.70 (2.73)
CG	8.93 (3.33)	9.17 (2.97)

There was no significant group*time interaction (F(2, 87) = 1.253, P = .291), no significant main effect of group (F(2, 87) = .348, P = .707) and no significant main effect of time (F(1, 87) = 3.837, P = .053) on the TIPI-ES score.

5.5.1.13 TIPI Openness to Experience (TIPI-OE)

Table .49 - Means and standard deviations for TIPI-OE by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	11.07 (2.15)	10.43 (2.25)
HA	9.60 (2.69)	10.00 (2.37)
CG	10.97 (2.14)	10.60 (2.19)

There was no significant group*time interaction (F(2, 87) = 1.726, P = .184), no significant main effect of group (F(2, 87) = 2.295, P = .107) and no significant main effect of time (F(1, 87) = .720, P = .399) on the TIPI-OE score.

5.5.1.14 Rosenberg Self-esteem (RSE)

Table .50 - Means and standard deviations for RSE by time and experimental conditions

	Time	
Group Condition	Pre	Post
PR	31.73 (5.70)	31.97 (5.82)
HA	29.17 (4.57)	30.20 (5.42)
CG	30.60 (6.22)	31.37 (5.31)

There was no significant group*time interaction (F(2, 87) = .233, P = .793), no significant main effect of group (F(2, 87) = 1.414, P = .249) and no significant main effect of time (F(1, 87) = 1.932, P = .168) on the RSE score.

5.5.1.15 Additional analysis of significant main effects

For significant main effects of time, the direction of the effects are illustrated by reporting summary statistics of the pre and post measurements for the three groups combined. Where a significant main effect of group was observed, the pairwise differences between groups were examined by performing post-hoc tests. To allow for the multiple comparisons between pairs of groups, the Bonferroni method was used to adjust the *p*-values and confidence intervals arising from these tests.

5.5.1.15.1 Results

Table .51 - Means and standard deviations for the Oxford Happiness Questionnaire (OHQ) scores by time (all experimental conditions combined)

	Time	
Group Condition	Pre	Post
All combined	118.98 (19.27)	123.63 (20.05)

The results suggest that there was a significant overall main effect of time (F(1, 87) = 5,051, *p* = .027) on the OHQ score. A summary of the scores for all groups

combined is presented in Table 5.15 and the results suggest an increase in scores from pre to post.

Table .52 - Means and standard deviations for UWIST Tense Arousal (UWIST-TA) by time (all experimental conditions combined)

	Time	
Group Condition	Pre	Post
All combined	16.89 (4.84)	14.17 (4.10)

There was a significant main effect of time ($F(1, 87) = 21.17$, $p < .001$) for the UWIST-TA sores. A summary of the scores for all groups combined is presented in Table 5.15. The direction of the main effect suggests a decrease in tense arousal scores from pre to post.

Table .53 - Means and standard deviations for UWIST Hedonic Tone by time (all experimental conditions combined)

	Time	
Group Condition	Pre	Post
All combined	23.64 (5.81)	26.64 (4.16)

There was a significant main effect of time (F(1, 87) = 20.93, p < .001) on the UWIST-HT score, suggesting an overall change from pre to post treatment for the group as a whole. The UWIST-HT scores increased from the pre to the post time points.

Table .54 - Means and standard deviations for State Self-Esteem Scale Performance (SSES-P) by time and experimental conditions

	Time	
Group Condition	Pre	Post
All combined	24.58 (6.09)	26.13 (5.12)

There was a significant main effect of time (F(1, 87) = 6.407, p = .013) on the SSES-P scores There was an increase in scores from pre to post, see table 5.18, suggesting an overall effect of time for the group as a whole.

Table .55 - Pairwise comparisons between experimental groups for TIPI Conscientiousness (TIPI-C)

Comparison	Mean (95% CI) (*)	*p*-value (*)
PR - HA	0.27 (-1.24, 1.77)	1.00
PR – CG	1.50 (0.00, 3.00)	.05
HA - CG	1.23 (-0.27, 2.74)	.15

(*) Confidence intervals and *p*-values given Bonferroni adjustment

There was a main effect of group (F(2, 87) = 0.451*, p* = .039) upon TIPI-C scores. This suggests that for the two time periods combined, there was a difference between groups. The pairwise differences between groups were examined, and are summarised in table 5.19. The figures reported are the mean difference between pairs of groups, along with corresponding confidence intervals; *p*-values indicating the significance of the results are also reported.There was no significant difference between HA group and either the PR and CG groups. There was some evidence of a significant difference between the PR and CG groups, although this difference was only of borderline statistical significance (*p*=.05). There were higher values in the PR group than in the CG group.

5.5.2 Summary of Results

The results show that there were no significant main effect of group and main effect of time for the following measures: TEI, two of the state self-esteem

measures, (SSES: social and appearance). Four of the personality measures (TIPI: extroversion, agreeableness, stability and openness) and global self-esteem (RSE). The results demonstrate significant group*time interactions singly for UWIST EA only.

Firstly, there were no changes in levels of TEI as a result of the intervention, whilst there was an overall main effect of time for the OHQ score. The results suggest a significant increase from pre- to post- scores for the group as a whole. As shown, there was a significant interaction for UWIST Energetic arousal, suggesting that the scores varied between the groups from pre-to post intervention. The Happiness group had greater post-versus pre-intervention scores compared with the Relaxation and Control group. There was also a significant difference between groups at pre-intervention, but not post-intervention.

For the remaining UWIST measures tense arousal and hedonic tone there were main effects of time with the latter suggesting an overall change from pre- to post treatment for the group as a whole. There was no change for the three State self-esteem measures, performance, social and appearance and similarly, for the personality measures for extraversion, agreeableness, emotional stability and openness no change was recorded. However, for conscientiousness, there was a main effect of group which suggests that for the two time periods combined, there was a difference between groups; the control group scored lower than the other two groups; there was no effect or interaction with global self-esteem.

5.6 Discussion of the First Experimental Study

On the basis that the training interventions did not induce positive changes, explanations were sought in relation to chance and the design of the intervention programme with reference to the earlier correlational result and the timeline which may have restricted behaviour change. The latter will be discussed when considering the second experimental intervention. What appears to be the most important result here is the group*time interaction because this determines whether there is a differential effect between the experimental groups on the scores that measured EI, happiness, self-esteem, mood and personality. This can be seen only in the analysis of energetic arousal within the HA group which may suggest that participants of this group perceived themselves as being more alert, post-intervention compared with the relaxation and control group. It would be imprudent to draw conclusions because it has to be recognised again that moods are intrinsically unstable and subject to changes at a moment's notice for reasons of cognition and physiology.

Thus, as the results do not support the high correlations and prediction of the former study, it was concluded that a further investigation aimed at addressing the programme delivery time may produce empirical data which demonstrate that levels of EI can be enhanced as a result of experimental intervention. This attempt arose from the genuine desire that underpins this whole research study, to contribute to a robust and emerging 'science' of EI, a notion others are working towards too (Zeidner et al., 2009).

5.7 Introduction to the Second Experimental Study

As a consequence of the results of the former studies, the design of the next study included a number of changes viewed here as programme enrichment. Whilst an effort was made in the previous studies to include all variables, in view of the overall findings, measures of mood and personality were no longer included, and the focus was on EI in conjunction with those variables that had been found to be more strongly associated with EI. Although personality traits like openness to experience and emotional stability showed a connection with EI, happiness and global self-esteem demonstrated stronger connections. In order to look more closely at the relationship between EI, happiness and self-esteem, it may be advantageous at this point in the investigation to bring the named variables together within the realm of 'well-being', as each variable has previously been associated with well-being in a host of studies (e.g. Fredrickson, 2010; Gross, 2006; Lyubormirsky, et al., 2005; Seligman, 2003). To this end, the positive thinking programme appeared to be a particularly suitable means of investigating whether behaviour can change as a result of an intervention. To investigate further the association of well-being with EI, happiness and self-esteem, the next investigation included a measure of life-satisfaction. Various authors have theorised that EI should be correlated not only with happiness and subjective well-being but also life satisfaction (Law et al., 2004; Salovey & Mayer, 1990) However, this second training intervention which remained broadly the same as the previous programme, was delivered over an extended timeframe and involved a reduced number of participants because recruitment resulted in a smaller number. The intention was not to compare like-with-like but to utilise the same design in an effort to go beyond the findings produced so far. There were also some amendments to the scope of its focus, as discussed below. Results

from this intervention will be presented, analysed and discussed and the chapter will close with concluding comments.

5.7.1 Overview of the Study

This study aimed to move beyond the former findings by focusing on EI and those variables that have been identified throughout this research as being most strongly associated with EI. The concept of well-being was added to happiness and self-esteem as it had become clear that well-being forms an integral part of both variables and EI. Therefore, the aim of this study was to extend previous findings and seek further clarification as to whether levels of EI, happiness, self-esteem and well-being can be enhanced through the application of a more targeted training intervention. The synthesis of data from each study in this research project has gone on to inform which personal characteristics should be central to the activities of subsequent studies. Therefore, this study had omitted mood and personality and aimed to bring together the remaining variables within the realm of well-being by adding a measure of life-satisfaction.

As in the previous study, the design for the experimental and control group remained the same, with the difference being a delivery time of six weeks allowing for an enrichment of the programme. This amendment was in response to the challenges identified earlier, including allowing sufficient time for behaviour to change as a result of the intervention. Programme feedback was collected after programme completion so as to preserve the authenticity of the original design. Using a single blind placebo controlled study, 24 participants were placed into the control or experimental group. Tests were administered pre- and-post intervention.

5.7.2 Programme Enrichment

Even though the actual Positive Thinking Programme had not been changed from the first experimental study, the extended delivery time allowed for knowledge enhancement and increased practice of strategies anchored in academic research. To reiterate, at the core of the programme were exercises in positive self-talk, positive thinking and self-efficacy, self-evaluation and self -worth. Positive self-talk refers to the practice of engaging with a series of repetitive statements aimed at bringing about changes in attitude (Jones & Fernyhough, 2007). Similarly, positive thinking exercises (Fredrickson, 2002) refers to activities specifically designed to turn negative thoughts into positive, productive ones. The notion of self-efficacy builds upon the theory proposed by Bandura (1997) and refers to the individual's sense of abilities and capacities, whereby self-evaluation becomes a tool to rate one's own abilities. Self-worth is viewed here as part of self-esteem, referring to the full dimension of a person's worth including beliefs, emotions, despair and pride and shame (Rosenberg, 1965).

Likewise, this extended programme enabled each session to include a full overview of activities, regular feedback and a joint summary discussion with participants at the end. Though formal presentations of theories continued to be kept to a minimum, participants were encouraged to research topics further outside the programme, and active participation and the exchange of ideas was encouraged. After completion of the whole programme, participants were invited to note their likes and dislikes and make suggestions about future activities. This information was thought to be a valuable addition to inform the design of future programmes.

5.7.3 Rationale and Aim for Conducting the Second Study

Akin to the previous study, the overall aim was to add to existing knowledge; moreover, this study aimed to extend previous findings by focusing on subjective well-being, including happiness and self-esteem within this investigation. Whilst a number of researchers have theorised that EI may be positively correlated with happiness, subjective well-being and life-satisfaction (Chamorro-Permuzic et al., 2007), none has tested this theory in an applied setting. Furthermore, empirical evidence has shown that EI correlates with a variety of outcomes, including more frequent positive affect and higher self-esteem together with social engagement (Petrides et al., 2007). Given that the robustness of these relations may be measure-dependent, this study aimed to produce credible findings beyond existing ones in its quest to guide further research.

5.8 Methodology

5.8.1 Design

This is a single blind placebo controlled study investigating whether levels of EI, happiness, self-esteem and life-satisfaction can change as a result of an experimental intervention that involves positive thinking exercises. The mixed design see table 5.20, incorporates one experimental and one control condition each enjoying the same format:

Table .56 - Design incorporating five pre- and post-tests

Group	Tests	Activity	Tests
Experimental Condition (1)	Pre-tests to generate pre- test scores	Positive thought programme (PTP)	Post-tests to generate post-test scores
Control Condition (2)	Pre-tests to generate pre- test scores	Non-demanding reading task	Post-tests to generate post-test scores

5.8.2 Participants

Twenty four participants were recruited from students at the University of Wolverhampton and the City of Wolverhampton College. The age distribution ranged from 17 to 59 with a mean of 29 (s.d. = 10.5); 75% of the participants were female. Potential participants were provided with a brief overview, allocated rooms and a choice of times to ensure their availability and commitment for the six weeks necessary to complete the whole programme.

5.8.3 Materials

5.8.3.1 Recruitment Poster

The recruitment poster invited students to participate in the experiment; it briefly explains the aims of the study and requirements for participation (Appendix 5.16).

5.8.3.2 Summary Sheet for Briefing Sessions

The summary sheet described the design of the experiment and outlined the requirements for participation. Prospective participants were assured of confidentiality and presented with an outline of the study, which included the requirement for the informed consent sheet as part of ethical considerations (Appendix 5.17).

5.8.3.3 Timetable for Groups

A number of different timeslots were offered to participants in order to ensure availability and continuity of attendance (Appendix 5.18).

5.8.3.4 Test Measures

The tests applied pre and post intervention in this study (Appendix 5.19) were the same as previously used with the omission of measures for mood and personality and the addition of a measure for life-satisfaction: Satisfaction with Life Scale – SWLS (Diener, Emmons, Larsen, & Griffin, 1985). As mentioned during the discussion in Chapter Four and stated briefly during the introduction, there have been a number of authors who theorised that EI correlates with important life outcomes like life satisfaction (Law et al., 2004). Zeidner et al. (2009) also suggest that EI correlates with a variety of outcomes, ranging from emotional wellbeing, higher self-esteem to life satisfaction. Informed partly by the interventions by Nelis et al. (2011) and partly by the credibility of the test itself (Pavot & Diener, 2008), the SWLS is utilised here so as to explore the possible utility of EI further in relation to life satisfaction.

The SWLS was developed to assess individuals' global judgement of their life-satisfaction. Following factor analysis, of the initial 48 items intended to reflect life-satisfaction and well-being, 10 items were identified with high loadings (.60 and above) and following elimination of redundancies, 5 items remained as a 7-point Likert style response scale. Following the original development, extensive data were generated to demonstrate high internal consistency; coefficient alpha from 0.79 to 0.89 (Pavot & Diener, 1993). More recently, Adler and Fagley (2005) reported 0.87 and Steger, Frazier, Oishi, & Kaler (2006), 0.86. Test-retest reliability data include coefficients of 0.84 (Pavot, Diener, Colvin, & Sandvik, 1991) and 0.80 for a 1-month interval (Steger et al., 2006) and 0.54 over a 4-year span (Magnus, Diener, & Pavot,1993). Further data is available from studies where the scale has been used in clinical, international, cross cultural and counselling related investigations (Pavot & Diener, 2008).

As previously, all tests were untimed, each preceded by individual instructions. Through the application of randomisation, the sequences of the tests were varied to address possible order effects.

5.8.3.5 Recursive Abstraction Sheet (RA)

This qualitative data method had been identified as an appropriate analysis of participants' feedback because, similarly to the use in focus groups, contributions need to be compact and accurately reflect the feelings and ideas of the group. The method of RA involved the analysis of data without coding and aims to create datasets; these datasets were then summarised repeatedly until they formed a concise overview of the written contributions supplied by the participants. One of the most frequent criticisms is that the final conclusions are removed from the

underlying data. This can, however, be avoided by documenting the reasoning that accompanies each summary step leading to the end product of a clear, compact summary that would have otherwise been difficult to accurately discern without the preceding steps of distillation.

5.8.3.6 Feedback Sheets

A number of A5 paper cards (30) were presented for informal feedback.

5.8.4 Procedure

5.8.4.1 Procedure for the Combined Number of Participants

Undergraduate psychology students were recruited via recruitment posters on noticeboards and briefing sessions. They each attended a programme of positive thinking or a non-demanding reading task as part of the control group. The total number of sessions was six, timed at 2 x 60 and 4 x 30 minutes, delivered over six weeks, they were provided with a reminder of the test requirements. Participants completed all measures twice. Session 1 included the completion of the five tests at the start session, five at the close of the sessions. Each procedure will now be presented separately with their respective information.

5.8.4.2 Procedure for the Experimental: Happiness Group

Following the recruitment process, participants were presented with an information sheet (Appendix 5.20) outlining the positive thinking programme. Participants were reminded of the timing of each of the six sessions, re-assured of confidentiality and requested to sign the informed consent sheet (Appendix

5.21). The Programme was designed to be interactive and participants were encouraged to explore their own strengths and to identify areas they would like to strengthen further. A wide range of teaching and learning strategies were utilised and each session started and closed with the appropriate summary and feedback. The full programme was the same as in the previous study only extended over six sessions; it included the same activities and hand-outs as previously. As an aide-mémoire an abbreviated version of the sessions will be presented next.

5.8.4.2.1 Introduction to Session Outline

Prior to the start of session one, participants are thanked for taking part and the completion of the informed consent sheet is checked. Participants are reminded of the number and times of sessions and that they are able to withdraw at any time.

5.8.4.2.2 Session One and Session Two

During the first part of the first session, participants are required to complete the five tests; they are reminded that each test has its own instructions and told to work through each test swiftly. They are asked to start when instructed (Appendix 5.22) and to remain seated until everybody has completed their tests so that the positive thinking activity can commence.

For the remaining session and session two, activities focus on positive and negative self-talk to demonstrate their respective effects on emotions. Participants are provided with a scenario and the ‘How do I feel’ exercise invites

them to read six positive and six negative statements which are rated to reflect their feelings. This very simple but effective exercise demonstrates how strongly our feelings are influenced by even a small set of positive and negative statements. The self-talk cycle (adapted from Bagshaw, 2000) is introduced and participants are encouraged to engage in a discussion about their feelings. At the end of the session, participants are thanked and reminded of the date for the next session.

5.8.4.2.3 Session Three and Session Four

Participants are thanked for returning to continue with this study. Again, they are assured of confidentiality and reminded of the activities during the previous session. The concept of the internal critic is introduced and participants are encouraged to assess their own level of self-critic. This activity allows participants to work on their own to protect privacy and to ensure that they have the opportunity to explore at their chosen level of exploration. The session closes with the identification of one negative belief that participants want to change.

5.8.4.2.4 Session Five and Session Six

At the start of the fifth session, participants are reminded of the former activities and of the request to identify one belief that could be changed. This part of the session closes with an exercise that supports the identified change, followed by the presentation of positive emotional strategies that continues into the sixth session. This is followed by the completion of the five tests. Participants are reminded that each test has its own instructions and invited to work through each

test swiftly. They are told to start when instructed and to remain seated until everybody has completed their tests.

Upon completion of the tests, which effectively brings the programme to a close, participants are presented with a number of A5 cards and required to comment on their experience of the programme. Participants are thanked for taking part and reminded to get in touch if they would like to find out about the results. Before departure, each participant receives a compliment from each of the group members and is offered a certificate of attendance.

5.8.4.3 Procedure for the Control Group (CG)

Following the recruitment process, participants were presented with an information sheet (Appendix 5.23) that outlines the programme for the control group. Participants are reminded of the timing of each of the three sessions, assured of confidentiality and requested to sign the informed consent sheet (Appendix 5.24). The programme activities, as previously, involve the non-demanding task of reading for the same duration as the experimental group.

5.8.4.3.1 Introduction to Session Outline

Prior to the start of session one, participants are thanked for taking part and the completion of the informed consent sheet is checked. Participants are reminded of the number and times of sessions and that they are able to withdraw at any time.

5.8.4.3.2 Session One

During the first part of the session, participants are required to complete the five tests; they are reminded that each test has its own instructions and told to work through each test swiftly. They are invited to start when instructed (Appendix 5.25) and to remain seated until everybody has completed their tests so that the reading activity can commence.

During the second part of the session, participants are required to read non-demanding material. It was specified that the reading task was for leisure only and did not include study material or the use of electronic devices. A variety of magazines are provided for this purpose and at the end of the session participants are thanked and reminded of the date for the next session.

5.8.4.3.3 Session Two – Session Five

Participants are thanked for returning to continue with this study. Again, participants are assured of confidentiality and reminded that in this session only the reading task has to be completed. At the end of the session participants are thanked and reminded of the date for the next and last session.

5.8.4.3.4 Session Six

During the first part of this session, the participants are required to read non-demanding material followed by the completion of the five tests. As during session one, they are reminded that each test has its own instructions and told to

work through each test swiftly. They are informed to start when instructed and to remain seated until everybody has completed their tests.

Participants are thanked for taking part and reminded to get in touch if they would like to find out about the results.

5.9 Results

Each DV has been examined using a 2x2 mixed ANOVA. A summary of means and standard deviations for each measure are presented in table 5.21.

Table .57 - Summary of means and standard deviations of pre-and post- scores for each measure

Measure	Pre-	Post-	Pre-	Post-
	HA group	HA group	CG group	CG group
TEI	144.42 (18.79)	161.25 (25.28)	150.50 (18.02)	153.25 (16.31)
OHQ	112.33 (16.90)	128.42 (15.79)	119.00 (18.71)	118.00 (13.80)
SSES- P	24.08 (5.52)	27.58 (5.73)	25.08 (3.70)	26.41 (4.08)
SSES- S	24.67 (6.84)	28.92 (6.30)	22.33 (5.21)	23.25 (5.88)
SSES- A	17.67 (4.21)	22.25 (5.36)	18.92 (4.96)	19.83 (3.46)
RSE	28.17(5.61)	34.17 (4.00)	29.58 (5.55)	29.50 (5.18)
SWLS	19.75 (4.73)	25.08 (6.61)	21.75 (5.05)	21.17 (5.24)

Note: list of abbreviations: TEI (Trait emotional intelligence) OHQ (Oxford happiness questionnaire), SSES-P (State self-esteem scale-performance) SSES-S (State self-esteem scale -social) SSES-A (State self-esteem scale -appearance), RSE (Rosenberg self-esteem scale), SWLS (Satisfaction with life score).

The table shows that there are significant group*time interactions for EI, happiness, three of the self-esteem measures and life-satisfaction with no interaction for state self-esteem.

5.9.1 Summary of Interactions

The overall aim, as in study four, has been to examine the group*time interaction as the most relevant interaction in this investigation, such result will be acknowledged by presenting the effect size and a figure.

Data were approximately normally distributed for each level of group, as assessed by Normal Q-Q Plot. There was homogeneity of variance for pre- and post-intervention, as assessed by Levene's Test of Equality of Variances (p>0.05).

5.9.1.1 Emotional Intelligence (EI)

There was a significant group*time interaction (F(1, 22) = 9.371, P = .006) on the EI score (see Figure 5.2). This suggests that the change from pre to post intervention varied between the two groups. The HA group had the largest increase in scores, increasing from a mean of 144.0 pre-treatment to 161.0 post-treatment. The change was less in the EX group, from 151.0 pre to 153.0 post treatment. There was no significant main effect of group (F(1, 22) = 0.015, P = .903), but the time main effect was statistically significant (F(1, 22) = 18.12, P < .001). The effect size for the main effect of time is =.452(η^2). The effect size =.299 (η^2) is the time by group interaction.

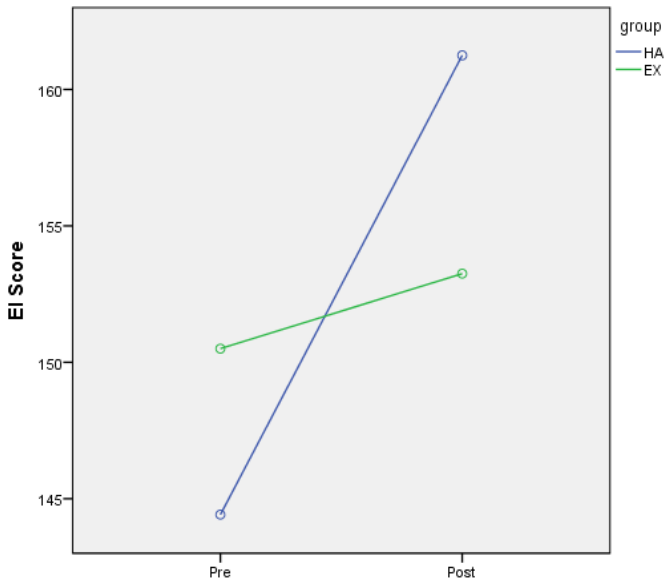

Figure .4 - Emotional Intelligence (EI) – the change from pre to post treatment.

5.9.1.2 Oxford Happiness Questionnaire (OHQ)

There was a significant group*time interaction (F(1,22) = 21.04, P < .001) on the OHQ score (see Figure 5.3). This suggests the change from pre to post treatment varied between groups. The HA group had the largest increase in scores, increasing from a mean of 112.0 pre-treatment to 128.0 post-treatment whilst there was relatively little change in the EX group, from 119.0 pre and 118.0 post treatment. There was no significant main effect of group (F(1, 22) = 0.085, *p* = .773), but the main effect of time was statistically significant (F(1, 22) = 16.40, *p* = .001). The effect size for the main effect of time is =.427(η^2). The effect size =.489 (η^2) is the time by group interaction.

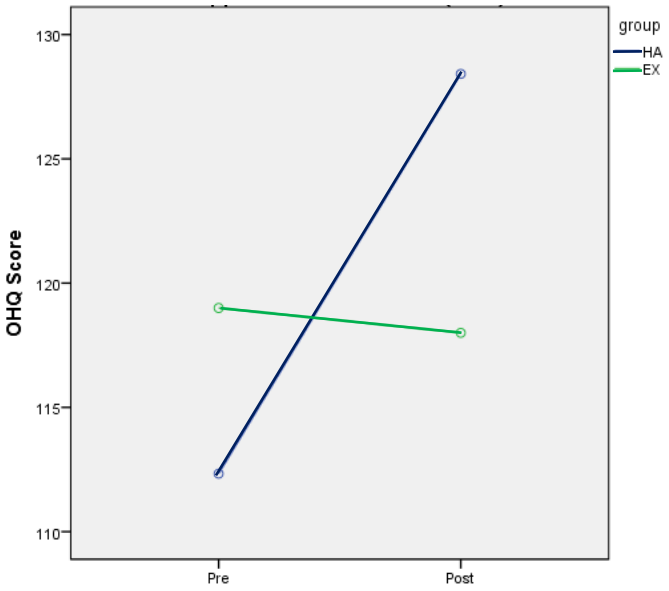

Figure .5 - Oxford Happiness Questionnaire (OHQ) – the change from pre to post treatment.

5.9.1.3 State Self Esteem Scale Performance (SSES-P)

There was a significant group*time interaction (F(1, 22) = 5.266, P = .032) on the SSES-P score (see Figure 5.4), suggesting that the change from pre to post varied between the two groups. The HA group had the largest increase in scores, increasing from a mean of 24.1 pre-treatment to 27.6 post-treatment. The change was less in the EX group, from 25.1 pre to 26.4 post treatment (see figure5.4). There was no significant main effect of group (F(1, 22) = 0.002, p = .966), but a significant main effect of time was observed (F(1, 22) = 26.21, p < .001). The effect size for the main effect of time is =.544(η^2). The effect size =.193 (η^2) is the time by group interaction.

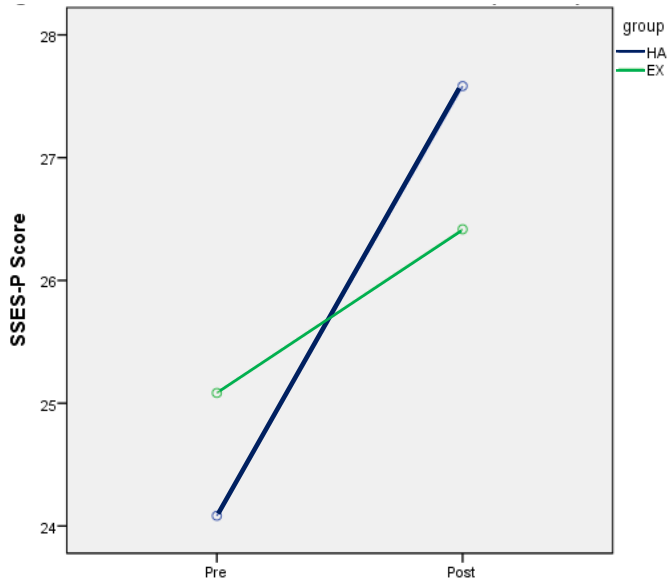

Figure .6 - State Self-Esteem Scale Performance (SSES-P) – the change from pre to post treatment.

5.9.1.4 State Self Esteem Scale Social (SSES-S)

There was only weak evidence of a group*time interaction (F(1, 22) = 4.084, *p* = .056), on the SSES-S score (see Figure 5.5), suggesting only slight evidence that the change from pre to post varied between groups. The differences in means for pre and- post treatment were for the HA group from 24.7 to 28.9 and the EX group, 22.3 to 23.3. There was a significant main effect of time (F(1, 22) = 9.811, *p* = .005) with a general increase in values from pre to post when all subjects are considered together. There was no significant main effect of group (F(1, 22) = 4.084, *p*= .103). The effect size for the main effect of time is =.308 (η^2). The effect size =.157 (η^2) is the time by group interaction.

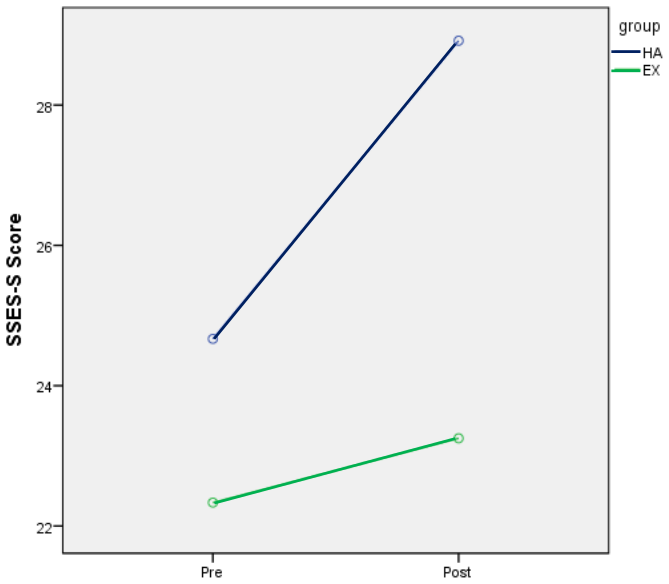

Figure .7 - State Self-esteem Scale Social (SSES-S) – the change from pre to post treatment.

5.9.1.5 State Self Esteem Scale Appearance (SSES-A)

There was a significant group*time interaction ($F(1, 22) = 7.161$, $p = .014$), on the SSES-A score (see Figure 5.6), suggesting the change from pre to post intervention varied between groups. The HA group had the largest increase in scores, increasing from a mean of 17.7 pre-treatment to 22.3 post-treatment whilst there was relatively little change in the EX group, from 18.9 pre and 19.8 post treatment. There was no significant main effect of group ($F(1, 22) = 0.114$, $p = .739$), but there was found to be a significant main effect of time ($F(1, 22) = 16.11$, $p = .001$). The effect size for the main effect of time is =.423(η^2). The effect size =.246 (η^2) is the time by group interaction.

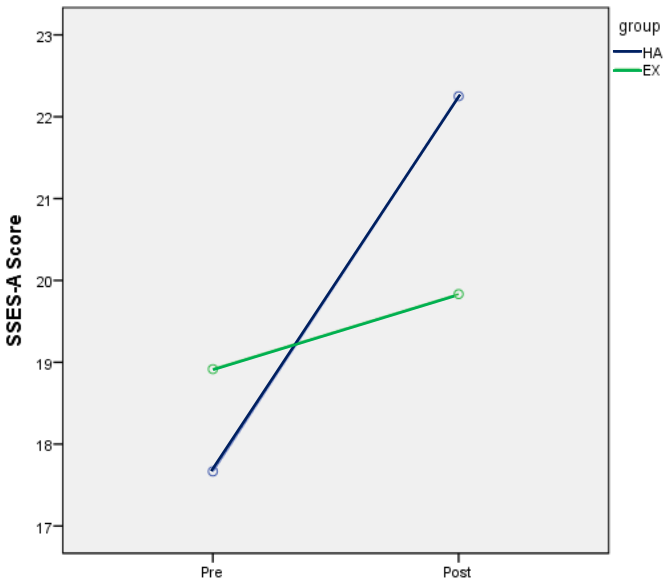

Figure .8 - State Self-esteem Sale Appearance (SSES-A) – the change from pre to post treatment.

5.9.1.6 Rosenberg self-esteem (RSE)

There was a significant group*time interaction (F(1, 22) = 14.16, *p* = .001) on the RSE score (see Figure 5.7), suggesting that the change from pre to post intervention varied between groups. The HA group had the largest increase in scores, increasing from a mean of 28.2 pre-treatment to 34.2 post-treatment whilst there was almost no change in the EX group, from 29.6 pre to 29.5 post treatment. There was no significant main effect of group (F(1, 22) = 0.709, *p* = .409), but the main effect of time was statistically significant (F(1, 22) = 13.40, *p* = .001).The effect size for the main effect of time is =.378(η^2). The effect size =.392 (η^2) is the time by group interaction.

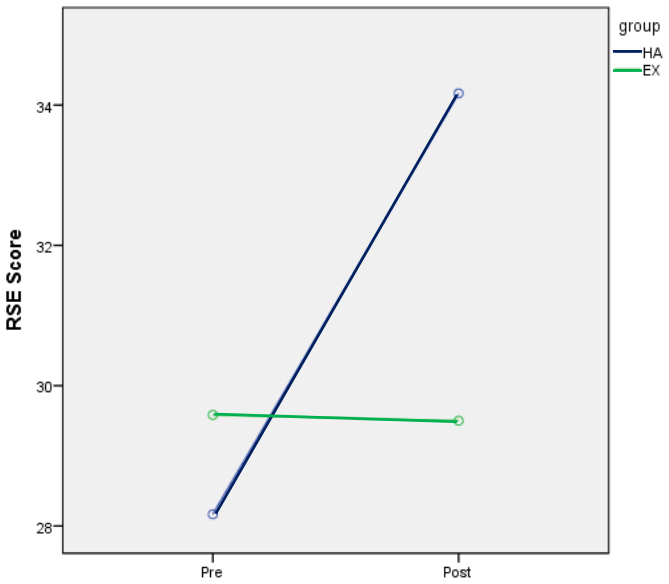

Figure .9 - Rosenberg Self-esteem (RSE) – the change from pre to post treatment.

5.9.1.7 Satisfaction with Life Scale (SWLS)

There was a significant group*time interaction ($F(1, 22) = 9.757$, $p = .005$), on the SWLS score (see Figure 5.8). This suggests the change from pre to post treatment varies between groups. The HA group had the largest increase in scores, increasing from a mean of 19.8 pre-treatment to 25.1 post-treatment. There was a very slight decrease in scores in the EX group, from 21.8 pre to 21.2 post treatment. There was a slight decrease in scores in the EX group. There was no significant main effect of group ($F(1, 22) = 0.226$, $p = .639$), but a significant main effect of time ($F(1, 22) = 6.289$, $p = .020$). The effect size for the main effect of time is =.222(η^2). The effect size =.307(η^2) is the time by group interaction.

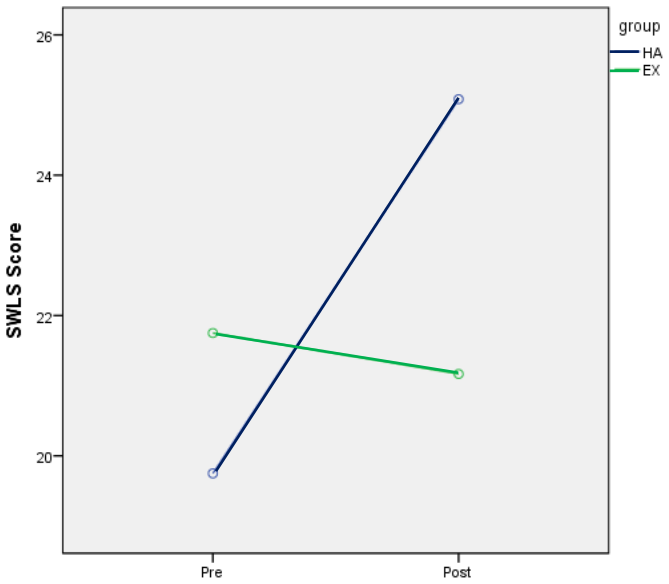

Figure .10 - Satisfaction With Life Scale (SWLS) – the change from pre to post treatment.

5.9.2 Summary of Results

The significant group*time interaction shows that the change from pre-to post intervention varied between the experimental and control group with the former eliciting a significant increase in TEI scores. Similarly, there was a significant interaction on the Happiness score and also a statistically significant effect of time. There were significant group*time interaction for two of State self-esteem measures, namely, performance and appearance, which also recorded significant main effect of time.

The third self-esteem measure showed no significant group*time interaction, but overall, there were an increase from pre-to post intervention when all participants were considered. There was a significant group*time interaction on the self-esteem and satisfaction with life score, for both there was also a main effect of time with the control group recording a slight decrease in the life satisfaction scores.

Table .58 - Summary of evaluation comments provided by participants after completion

What I liked about the course	What I disliked about the course	What I would like to do next
Self-exploration, like thinking about myself and dealing with issues	The time of the day, always having to rush	More courses in the future, including a follow up from this course
Friendly, knowledgeable and approachable tutor, easy to talk in the group	Sessions too short, too brief, some tasks too rushed	Put into practice what has been learned, investigate further courses, qualifications
New ideas, small group size, time to work with myself, relaxed, positive atmosphere	Not intense enough, needed more depth	Continue positive thinking, take it further(more intense)

Experimental Group (HA): 12 participants

The evaluations provided by participants of the experimental group reflect positive comments about the programme, although the subjectivity is recognised particularly as comparisons cannot be offered.

5.10 Discussion

As stated before the most important result here is the group*time interaction because this determines whether there is a differential effect between the experimental groups on the scores that measured EI, happiness, self-esteem and life-satisfaction. Therefore, taken together, the results offer strong evidence of significant group*time interaction, suggesting that levels of EI, Happiness, State self-esteem for performance and appearance, General self-esteem and

Satisfaction with life are enhanced as a result of the experimental intervention. The exception is the state self-esteem score that measures feelings of sociability where the interaction was non-significant. However, there was an overall increase from pre- to post-intervention. This suggests that all participants experienced a sense of sociability at the moment of recording the completion of the intervention. As this is a single score it would be pretentious to offer a conclusion other than the suggestion to investigate further emotional responses similar to self-esteem that take place in the moment.

The results suggest that the training intervention did indeed induce overall positive change; participants seemed to benefit particularly from heightened EI and happiness levels, which enhanced together with the remaining variables. This is very different from the results of the former study which informed the design of this study. Largely, the results seemed to be the outcome of the programme extension, which enabled behaviour to change. Participants were provided with sufficient time to acquire new knowledge and to practice strategies relating particularly to positive thinking. The programme had also been designed to be more interactive with exercises in positive self-talk, positive thinking, self-evaluation and self-worth, and it appears that the extended time enabled participants to make full use of the programme enrichment.

Although the programme design was meant to be similar to the previous study, delivered by the same researcher in similar environmental surroundings, the extension in time and number of sessions allowed for the detailed attention to activity development, regular feedback and summary discussions, which makes this programme substantially different from the former one. Such differences therefore make it problematic to compare one study with the other, even when

allowing for the difference in assessment tests. Clearly, a shift in emphasis towards well-being has also influenced the results, and at best, it can be concluded that the present results, taken together, suggest that the positive thinking intervention increased levels of EI, happiness, self-esteem and perceptions of live satisfaction, thus inducing overall positive change.

Moreover, the results from the evaluation evidence suggest that participants felt that they benefited from this intervention and that they liked having time to think about themselves and to be able to deal with some of their issues. As indicated, the subjectivity of this exercise has been recognised not only in relation to the process by which the information was gathered but also because the result cannot be compared. Be that as it may in this study, the information offered by participants after completion of the intervention was thought to potentially benefit subsequent studies. Participants stated that they enjoyed the relaxed and positive atmosphere and being able to explore new ideas. There was no specific criticism of the content and delivery except that there was not enough time and depth to the activities. Almost all of the participants would not only welcome a longer intervention but expressed a desire to engage in more depth or at more intense levels. Comments reflect a general feeling of safeness and trust, arguably the main ingredient for an effective training intervention. Likewise, it is encouraging that almost all participants expressed their next steps in terms of positive, achievable goals and this may well make a valuable contribution to future training designs.

Nonetheless, by way of a final conclusion, it is essential to pursue the question as to which confounding variables may have influenced these results. For example, judgments may have been influenced by the halo effect (Nisbett & Wilson, 1977),

a term coined initially by Thorndike (1920) and which is particularly prevalent in the perception of attractiveness that may affect judgments tied to personality traits. Similarly, the Hawthorn effect may have influenced judgments in that participants performed better when they are observed or, as in this case, when they become part of an experiment, although it is recognised here that the original results from the Hawthorn studies may have been overstated (Levitt & List, 2011). More pertinent to this study is probably the experimenter expectancy effects (Rosenthal & Jacobson, 1963), which refer to the influence that a researcher can exert on the outcome of a research investigation. Overall, the design may have inadvertently created experimenter demand and expectations from participants of personal improvement. In the same way, judgements may have been influenced by non-specific effects related to the processes within the training group, or between the researcher or trainer and some or all members of the group. Contact with a caring trainer or the social support and friendship generated during the programme (Nelis et al., 2011) is extremely likely to have had a direct influence on the results.

Having acknowledged some of the influences that may have impacted on the present results, it is also pertinent to explore the potential benefit of the results to the applied field. This will be undertaken momentarily in relation to present literature findings, although it is recognised that investigations of EI in the applied field remain limited. Nonetheless, in line with the findings of this study, there has been consistent effort to explore the potential contribution EI can make to day-to-day functioning in various applied areas (Bar-On & Parker, 2000). Specifically, researchers have pursued the question of whether levels of EI can influence the health and well-being of individuals and society. A growing number of studies have evidenced the positive relationships between EI and indices of well-being

such as greater life-satisfaction, higher self-esteem, PA, social interaction and better health (e.g. Bennett & Furnham, 2007; Chamorro-Premuzic, Gallagher, & Vella-Brodrik, 2008; Carmeli, Yitzak-Halevy, & Weisberg, 2009). Although researchers have posited different approaches in their search for what EI consists of, there now exists a general agreement that higher levels of EI result in greater well-being (Mayer & Salovey, 2004; Petrides & Furnham, 2006). Broadly, the concept is known to be integral to tasks such as accurately perceiving, expressing and regulating emotions (Koydemir & Schutz, 2012).

As the results have demonstrated a significant enhancement in levels of EI, this may be of direct benefit to individuals in the areas of education, work and particularly health improvement. The latter recommendation is supported by studies that have linked EI with physical health, in that it can act as a facilitator of good health practices. For example, individuals with high levels of EI are more likely to actively maintain positive self-care practices leading to efficient self-regulation of their health-related behaviours (Johnson, Batey, & Holdsworth, 2009). Similarly, EI appears to be fundamental to the management of emotion-laden encounters and a sense of healthy well-being (Lenaghan, Buda, & Eisner, 2007).

Within this context, research has shown that EI is more than simply a protective factor against negative emotional states; it also strongly relates to positive emotions and psychological well-being (Brackett et al., 2004; Brackett & Mayer, 2003; Zeidner et al., 2012). Theoretically, EI has been linked to a number of real-life outcomes such as positive mental health and subjective well-being. While the overall conceptualisation of EI refers to individual differences in identifying, expressing, understanding, regulating and using emotions (Mayer & Salovey,

1997; Petrides & Furnham, 2003), trait studies have offered more substantial evaluations of EI and life-satisfaction and well-being, thus demonstrating that EI can act as a credible well-being predictor (Shulman & Hemenover, 2006). Conversely, ability-based studies have demonstrated the advantage of being able to identify a specific emotion efficiently without spending time on broader emotional reactions. Thus, more focused processes of this kind are likely to lead more rapidly to an increase in positive, and a reduction in negative emotions (Montes-Berges & Augusto, 2007).

Although both approaches have yielded a wide range of interesting and valid findings, studying EI and its correlates in applied areas remains problematic. This is because, thus far, research has mainly been theoretically driven by one or the other approach, though there have been some weak or non-significant associations made between ability measures and indicators of personal adaptation such as subjective well-being, coping styles, life-satisfaction and social relationships, to name a few (e.g. Bastian et al., 2005; Brackett & Mayer, 2003; Freudenthaler, Neubauer, & Gabler, 2008). Furthermore, as evidenced in the previous investigation, to date, there are relatively few studies that have utilised methodologically robust interventions to test whether EI is a valid construct within an applied situation. Taken together, the results of this study show that levels of EI can be enhanced through the application of targeted, yet brief, training interventions, which is in line with the findings offered by Nelis et al., (2009) and Kotsou et al., (2011).

5.11 Summary of the Experimental Studies

In an effort to explore timing further, evidence from related research into positivity was drawn upon for the purpose of intervention time. Fredrickson (2009) presented findings about interventions of positive thinking and a loving-kindness meditation. She suggested that any change in behaviour would only occur during or after the three-week point. Typically, results were generated from a number of studies designed to continue for six to eight weeks with varied direct and indirect contacts (Cohn & Fredrickson, 2010). Similarly, findings by Seligman (2011) indicated that well-being changes are demonstrable where interventions are recorded over six weeks with two hours contact time. It seemed therefore that the present design would benefit from extended contact hours and this offers an opening for a further investigation and provides a potential explanation for the results.

In summary, each intervention has been presented with its own discussion, in order to emphasise their differences, whilst underlining how the analysis of the first informed the second intervention. Hence, the two experimental studies yielded different results, the first demonstrated that no enhancement in levels of EI and associated variables was generated as a result of the experimental intervention, whilst the second study produced opposite results. Both results were discussed with reference to existing literature findings and contributed to an improved understanding of what its potential place in the applied field.

5.12 Chapter Summary and Concluding Comments

The purpose of this chapter has been to continue investigating the relationship between EI, happiness, self-esteem, personality and mood further in an applied setting. The aim was to produce empirical evidence that EI can be enhanced

through the application of targeted training. A number of attempts to enhance EI have been synthesised from relevant literature and outlined here, with comments made on their strengths and limitations as educational, occupational, health and laboratory based investigations. Although a wide range of studies have been carried out, it is clear that many lacked experimental rigour; thus, care was taken to ensure that this study employed robust, rational and rigorous testing methods. In fact, the results of the first investigation showed that no overall enhancement took place and it was concluded that this was most likely due to chance or some element within the design of the intervention programmes. Such a conclusion highlighted the need for further study to investigate whether an intervention delivered over a longer period would generate a change of behaviour, and as a consequence, enhance levels of EI and its associated variables, happiness and self-esteem. The study produced interesting and encouraging results in that EI and the remaining variables were enhanced, thus inducing positive changes overall. It has been noted that the results should be viewed with caution, particularly because of possible experimenter biases. Nonetheless, the results can be justifiably viewed as potentially valuable to future EI research in the applied field. Specific conclusions directing recommendations for future research are presented next following a summary of this research study.

Chapter 6 - General Discussion, Conclusion and Recommendation for Future Research

6.0 Introduction

The purpose of this chapter is to present a summary of the overall findings of this research discussed within the theoretical framework of the research questions. The focus of the research questions is highlighted below:

Firstly, what is it that defines EI in relation to existing definitions and in relation to other constructs, happiness, self-esteem, mood and personality? Secondly, can a training intervention enhance the levels of EI and therefore contribute to the emerging field of application?

The first study explored existing definitions of EI and proposed an additional one that included work-related descriptors not hitherto recorded in the literature. Furthermore, the associations between EI and the multiple variables showed happiness, global self-esteem, performance self-esteem, emotional stability and openness to experience to be predictors of EI. Beyond such findings, EI was identified as having a mediating and moderating role when combined with other predictor variables. In response to the latter research question, the second experimental intervention overall enhanced levels of EI and is therefore considered to contribute to the emerging field of application.

The findings presented here include a summary of each chapter and references to literature, in addition to some comments that resulted from the experience of implementing the studies of this research. As stated, the literature review had

recognised the ongoing tension between emotion and reason that has remained from the early Greeks up to the current efforts to define EI. Throughout this research, EI was presented as a construct still at a rudimentary level of development and in need of a common, acceptable theory. The rather slow development of EI has been attributed to the confusion about EI as a popular concept which hindered the growth of academic credibility. As charted during the course of this research, the ability approach operates across emotional and cognitive systems and is measured via maximum performance tests (Salovey & Mayer, 1997), and the trait approach views EI as a constellation of emotion-related self-perceptions and dispositions, which is usually measured via self-reports (Petrides & Furnham, 2000). The method of measurement includes commonly the use of tests, questionnaires and interviews; others include observational methods, on the one hand, and psychometric and statistical methods, on the other.

Owing largely to these opposing studies, general popular interest has now become separated from academic research although some mistrust has remained in the scientific credibility of EI. Therefore, some of the controversy as to what EI consists of and how it should be measured continues to be debated, although some suggest that the construct may not exist at all. Reference is made to those sceptics who complain that EI is ‘old wine in new bottles’ and does not represent a new construct (Matthews et al., 2009). The present research study has acknowledged the evidence offered by both leading models and sought to contribute to the present efforts to demonstrate that EI is a valuable construct.

6.1 Summary of Overall Results

6.1.1 Introduction

The studies were carried out as distinct investigations each responding to the requirements of the research questions. The design ensured that the results of each study informed the characteristics of the next study. In the first study, the attempts to define EI resulted in a definition that offered supplementary components through the inclusion of work related abilities, and the combination of qualitative and quantitative data offered rich information about individuals' personal constructions of EI. Nonetheless, the wider role of EI in relation to other constructs and its potential contribution in the applied field remained to be explored. Hence, the second study explored EI's role in relation to happiness, self-esteem, personality and mood in order to ascertain their associations in detail followed by experimental intervention studies. Moreover, each investigation responded to parts of the research questions which together addressed two of the core subjects presently investigated in the EI literature, that of definition and application. Preceding the studies, the first chapter presented an overview of this research and introduced EI generally, to offer a summary of the direction of this research and to take advantage of the opportunity to outline the different methodologies utilised in this investigation, including the effort to mix qualitative and quantitative methods in the search for a definition of EI in study one. In preparation for the implementation of the studies, the literature review had developed the notion of a tension between emotion and reason further before presenting theories of emotion and intelligence, and an in-depth analysis of the literature relating directly to the different efforts to investigate EI. Furthermore, the outline of the remaining constructs, happiness, self-esteem, mood and

personality aimed to provide an introduction to their relationships with EI, which was explored further in Chapter Four. Once it had been recognised that studies investigating the relationships between EI and the specific combination of variables in this study were rare, correlational analysis was employed together with hierarchical regression and mediation and moderation analysis, in response to the identified gap in the literature.

The aim of the experimental intervention studies was to explore whether levels of EI could be manipulated through the employment of a number of training interventions. The experimental design incorporated six tests for the first and five tests for the second intervention to generate pre-and post-intervention data. Study three included two training interventions; relaxation and positive thinking and study four expanded the positive thinking intervention. The affirmative effects of the last intervention came about because the intervention itself was lengthened. The focus of these studies was on the investigation of training interventions which, on the whole, were found in the literature to be ill-designed. This issue is reconsidered briefly as part of the summary of studies that will now be presented, each will include some comments that have arisen from the experience of having implemented these individual investigations.

Study three included two training interventions; relaxation and positive thinking and study four expanded the positive thinking intervention.

6.1.2 The Definition of EI

In attempting to explore the definitions of EI in study one, note was taken of earlier efforts to demonstrate that the term as such was not entirely new by the

latter part of the 1990's when the first formal definition was presented. The tension between emotion and reason had been noted to demonstrate how problematic and challenging it is to bring together emotion and intelligence. Setting aside the more popular efforts in defining EI, scientific attempts were motivated largely by endeavours to operationalise the EI construct. Notwithstanding the opposing schools of thought that then emerged, the common initial goal had been to offer a theoretical framework within which emotion and intelligence could exist as one construct. This shared objective was born out of the belief that intelligence theories and especially IQ measures did not account for the full range of human abilities. Commonalities can still be found in the specific skills itemised in Chapter Three. For example, all EI models share the notion of the ability to recognise, express and manage own and others' emotions with differences in terms like empathy and areas like stress management, more prominent in mixed models.

In addition to the exploration of existing definitions, the goal of this research has been to generate a new definition that reflects preference for investigating individual perceptions of EI that are not experimentally influenced by any existing theories or additional experimental goals. As noted, the theoretical consideration of this present approach is anchored in constructivist psychology which in this context refers to personal constructivism or more precisely to Kelly's (1955) personal construct theory (PCT). The approach embraces the original idea of 'the person as a scientist', a particularly suitable method for exploring a construct like EI by way of bipolar dimensions, allowing participants to make direct use of their personal experiences and meanings, although it is recognised that the notion of priming may have to be re-examined. Unlike other qualitative methods that rely on a wide range of interpretations, PCT allows for a more objective analysis of

data. To this end, PCA was chosen for the subsequent analysis as the most suitable method which also had provided the opportunity for mixing methodologies.

It is recognised that historically, qualitative methods have been viewed as an alternative and competing paradigm to quantitative methods, with the former being presented as data that describes the social world as being constructed by the observer, as evident in Rep Grid analysis. Drawing upon field notes allowed for additional, personal information to enrich and deepen the data collected via the RepGrid method.

With quantitative methods, the social world is outside of the observer and data are viewed as hard and reliable. Recent approaches have argued that there are some advantages in utilising both approaches, for example, Smith (1995) argues this case particularly regarding repertory grids.

It was decided to mix methodologies, as this was viewed as complimenting the data. Both approaches have focused on the same phenomenon and brought about ‘corroboration’, that is, superior evidence. One principal advantage of utilising this method at the beginning of the research process was that the application allowed for the development of a wider understanding and knowledge of the EI construct because it allowed for a more accurate picture of the strengths and weaknesses of EI. Furthermore, as a research activity, it shaped a number of initial thoughts and influenced the suggestions for future research.

The final definition generated from the stated methods and presented in the results section of Chapter Three exhibits the personal construction of EI that

defines the subjective understanding of this construct and adds to a number of existing definitions. The main elements of the definition were that EI was perceived as the ability to optimistically control and manage one's own and others' emotions with empathy, being non-judgmental and dependable with a range of skills which vary from being a good communicator, hardworking, well organised and successful. Whilst it could not be claimed that the definition offers a substantially greater understanding of what defines EI, the method by which it was constructed is quite unique and it elicited work related terms, hitherto not presented. It demonstrates also that personal perceptions can capture the essence of EI as well as other, more extensive investigations. The most beneficial research outcome for this study has been the similarity with the terms applied in the construction of the trait EI model (Petrides, et al., 2009), because it offered a direction as to which school of thought this study should align itself with. In view of the empirical evidence provided by both, the trait and ability approach, deciding which test to utilise for a research project can be quite problematic. In this case, considerations were influenced by the implementation of the *MSCEIT*, which takes between 45 to 60 minutes to complete, and would not have been suitable for a design that employs multiple tests to explore a range of research questions.

6.1.3 Relationships between EI, Happiness, Self-Esteem, Mood and Personality

The overall aim of study two was to continue the search for what constitutes EI to complement the definition in the attempt to produce a comprehensive exemplar of EI. Whereas the former study generated a definition of EI, whilst exploring and comparing existing definitions, this study moved beyond this by exploring how the

construct relates to other constructs. Whilst research investigating associations between EI and happiness, self-esteem, mood and personality as single variables has been available, investigations to evaluate EI and its relationship with multiple variables were found to be rare. Therefore the specific aim has been to identify a cluster of psychological variables that are associated with each other and related to EI.

Whereas a mixed methods approach was employed in study one, the remaining studies utilised an approach that explains phenomena by collecting numerical data. This necessitated a quantitative approach to assure objectivity when facilitating comparisons across the variables under investigation. Thus, in this chapter it was investigated how EI correlates with a number of variables, identified possible predictors and determined whether EI may mediate or moderate between these predictors. Therefore, the discussion went beyond existing knowledge to explain what forms a person's EI via the employment of the Pearson's Product Correlation Coefficient, Hierarchical Regression Analysis and a Mediation and Moderation analysis.

In response to the first research question to define EI, this part of the investigation suggested broadly that there will be significant positive correlations between EI and a number of variables and that a number of predictor variables are identified in response to empirical evidence. For example, the relationship most frequently reported in literature has been concerned with EI and dimensions of personality (Matthews at al., 2004). This is partly due to personality being a defining feature in trait EI, and partly due to the efforts to investigate whether EI represents an independent construct distinct from personality or not. At the time of writing, evidence remains inconclusive largely because of the influence of

those studies that claim EI to be nothing more than a constellation of the Big Five factors (e.g. Landy, 2005; Locke, 2005).

Similar to findings on EI and personality, Zeidner et al., (2009) noted that some now view the ability to regulate mood as a defining feature of EI; nonetheless, whilst it seems likely that mood is a component of EI, empirical evidence is limited. Overall, the relationship between EI and mood was shown to be of particular interest to EI investigators because of their interest in the way individuals can actively manage their own moods. Particularly earlier studies had demonstrated links between EI and mood related behaviour and mood impairment and recovery (Salovey et al., 1995).

When examining the relationship between EI and happiness, Matthews et al., (2002) have argued that there was a higher correlation between personality and happiness. Particularly personality was considered as a robust predictor of happiness; and emotional stability, conscientiousness, extraversion and agreeableness were shown to predispose individuals to happiness (DeNeve & Cooper, 1998). This study showed high correlations between EI and happiness as well as self-esteem more than personality, although emotional stability and openness to experience were identified as predictor variables. However, it is important to remember here that relationships with EI are viewed differently depending on theoretical approaches. Those who view EI as an eclectic mix of traits (Petrides, 2001) would include, for example, happiness and self-esteem when conceptualising the construct of EI, whereas others who view EI as performance based are critical, for example, Mayer et al., (2004) argue that, if included, these variables may have low validity and are not distinguishable from other constructs. This, however, does not take away from the evidence that EI is

highly correlated with self-esteem (Schutte et al., 2002) and greater happiness. Overall, in this study, the exploration of the relationship between EI and the remaining variables offered sufficient evidence for there to be a further investigation that expands on previous findings by investigating the relationship between EI and multiple variables to see if there also exist mediating or moderating relationships.

In this attempt to contribute to the theory development that aims to establish EI as a well-defined construct, quantitative methodology was thought to be the most suitable option for a study that brings together a number of distinct yet diverse constructs. It seemed vital to use a method that can eliminate bias and filter out external factors through the employment of rigorous testing material and the application of the appropriate methodology so as to be able to produce reliable and valid results. The reason why the method used in this part is raised here concerns the impact the results had on the next research activity; as stated previously, the results of each study decided which characteristics will form the next research activity. Before returning to this consideration the results will be presented to underline their influence.

The results clearly identified significant positive correlations between EI, happiness, global self-esteem and personality with one of the mood measures (tense arousal) negatively related to EI. As suggested by literature findings, self-esteem had been found to correlate significantly high with EI (Schutte et al., 2002), likewise EI correlated positively with self-esteem and happiness (Sillick & Schutte, 2006). In line with findings in literature, the results of this study contribute to an understanding of the underlying processes involved in the sense of well-being that individuals can experience. The dissection of the descriptive,

statistics may well offer additional details as to what constitutes EI. For instance, it is interesting to consider what the mean values may say about the general characteristics of this sample of participants. They appear to have good, positive levels of EI, which means, for example, that they have an understanding of their own and others' emotions.

The positive predictor variables of EI were identified as happiness, global self-esteem, openness to experience, and at negative level, performance self-esteem. This may suggest that for the participants the level of EI is affected by a negative sense of general competence. Studies to investigate whether EI has a mediating or moderating role when combined with other identified predictors are rare. Hence, the results of this study which investigated and identified EI as having both roles are exceptional indeed. As this represents an initial study, the findings are presented here primarily to contribute to a wider understanding of the construct of EI with the recognition that further investigations into its mediating or moderating role are needed to substantiate this finding. Hence, these results are viewed as being original but will not be part of the studies that explore EI's potential place in the applied field.

As indicated before, whilst the overall findings contribute to a better understanding of what defines EI, they are more in line with findings directed by the trait EI approach. At this stage of the research, based on the findings, it was reasonable to propose that EI can be defined as 'a construct strongly related to global self-esteem and happiness that is perceived as an ability to positively and optimistically manage emotions with a sense of care and empathy'. In general, the findings support the suggestion that EI is a valid construct, although this is not to suggest that this research could claim that EI is a valid construct aligned with a

particular school of thought because no attempt was made to test the ability paradigm. Overall, this research informs about trait EI and the findings can be expanded to address the second research question, and to explore whether levels of EI can be enhanced through the employment of an experimental intervention in an attempt to investigate the potential of EI further in an applied setting.

Unfortunately, the credibility of EI in the field of application continued to be undermined by the popularisation of EI. Following the publication of Goleman's *Emotional Intelligence: Why it can Matter More than IQ* (1995), there has been an explosion of research, unfortunately with little correspondence between models and data and a marked absence of empirical evidence (Murphy et al, 2006). This included the fast expansion of training and development programmes that were not based on solid theoretical models or rigorous testing methods. Therefore, this research aimed to differentiate between programmes that are media led, and report only those that are based on appropriate methodological designs, producing credible empirical findings before designing and implementing a pogramme based in a controlled design that applied rigorous testing methods.

6.1.4 Studies Investigating Whether Levels of EI Can Be Enhanced as a Result of a Training Intervention

The aim of the two experimental interventions, study three and four, was to explore whether levels of EI can be manipulated through the employment of a number of training interventions. To generate pre and- post-intervention data, the experimental intervention design incorporated a number of measures for EI, happiness, self-esteem, mood and personality for study three, and EI, happiness,

self-esteem and life-satisfaction for study four. Both included a control group that incorporated the task of reading non-demanding material. Study three comprised two experimental conditions: multimodal relaxation and positive thinking. Study four comprised the single condition: positive thinking. Both conditions shared a common ground in considering emotional functioning, and were chosen for this research because neither had been applied in EI related investigations previously.

Although literature pertaining to the manipulation of levels of EI is limited, there have been attempts in occupational psychology and education, which produced some empirical evidence. Moreover, laboratory training interventions have recently produced more solid results obtained from controlled experimental interventions (Nelis et al., 2011). These studies showed that training interventions can enhance levels of EI and, remaining within the trait EI approach, the theorists involved with these investigations are currently aiming to redefine EI as a tripartite model termed EC. Allowing for this term to be relatively new, the present research has applied the terms EI and EC interchangeably and intends to consider the term EC further under the realm of considerations for future research.

Whereas a mixed methods approach was employed in study one, a quantitative approach was utilised for the remaining investigations. The examination of the results led to the question as to why no overall change took place on a greater level than chance or random factors specifically in relation to EI; indeed, none of the remaining variables that had been identified to correlate highly with EI and each other, changed either. Had there been a non-significant effect on EI singly or together, with one or two of the remaining variables, the results may have

offered a different direction as to the exploration of what EI consists of. Although care was taken to control for extraneous variables, chance or random factors can just happen making it impossible to control for all extraneous variables. Confounding variables like the place or time may have contributed, for example, the first intervention was timed between lectures in a large lecture theatre where it was probably difficult to focus on personal feelings.

In view of the absence of overall change, explanations were then sought in relation to the design of the study, particularly in relation to the programme time. The consideration of behaviour change as a result of training interventions led to a re-evaluation of the second research question; it was acknowledged that by extending the programme, the emphasis changed in relation to learning strategies and the acquisition of new behaviour.

In the design of the follow-up intervention, only those variables that had been identified as being highly correlated with EI were included. Complementing this design, a measure of well- being was added in response to the suggestion that the association of self-esteem and happiness with EI may well contribute to an understanding of the underlying processes involved in experiencing a sense of well-being (Sillick & Schutte, 2006). Thus, by applying a more focused approach, the last study implemented the positive thinking experiment over a longer time span. The positive thinking intervention was selected primarily because literature shows positive thinking to form a more substantial part of investigations into happiness and well-being (see Diener, 2000; Lyubomirsky, 2007, 2009; Seligman, 2003, 2011). Furthermore, the physical environment necessary for effective multimodal relaxation became difficult to organise with the available participant group. Although this study employed the same design as the previous

study, it is recognised that there was a substantial change because of the difference in delivery time which re-directed theoretical considerations towards well-being.

Thus, whereas the results for study three showed non-significant effects for EI, self-esteem, personality and two mood measures, study four showed overall significant effects suggesting that levels of EI, happiness, self-esteem and life-satisfaction were enhanced as a result of the intervention. It is recognised that the results cannot be compared; nonetheless, the substantial increase in levels of EI recorded in study four would suggest that this kind of intervention promotes the suggestion for future investigations. Although the methodology for selecting feedback was qualitative and subjective, the aim to offer a concise account of how participants felt at the moment of completion was achieved. These results are therefore viewed as making a valuable contribution to the study of the EI construct and future designs of similar interventions. This is not to neglect the reservations about the overall results that relate to biases such as the halo effect, group processes or experimenter effect, all of these may well have influenced the results. Specifically, the group processes are worth mentioning here, these will have occurred at observable and inferred level, referring also to conscious and unconscious intentions, motivations, wishes and needs (Beck & Lewis, 2000). Although the effects of group processes were not measured in this study, observational evidence suggests that, the experimental group in study four developed stronger relationships among its participants. As a social system there developed an observable safeness evidenced by the sharing of personal information. Before proceeding towards the closing part of this thesis, a brief and concise summary of conclusions will be presented as indicators for future research studies.

6.2 Conclusions

6.2.1 Introduction

The general conclusion that can be drawn from this research is that the tension between emotion and reason continues to influence efforts to identify what EI consists of. This is most prevalent also in the number of studies both schools of thought, trait and ability, have produced to evidence the existence of EI. Nonetheless, it is unclear whether the different attributes identified by the two models indicate any common qualities. Thus, overall, there continues to exist two EIs which represent an intelligence, on the one hand, and a facet of personality, on the other. For each of the EI models, researcher have offered credible evidence in favour of the existence of EI, but additional research is needed to demonstrate that the qualities measured by their respective tests can be described as 'EI'.

6.2.2 Conclusions as a Result of the Four Studies

As the results identified a number of work-related qualities, in study one, it is concluded that structured thinking, organisational and time skills together with being exceptional, hardworking and successful, should be considered as additions to the existing list of qualities that describe EI in the trait approach. Moreover, the method by which the data were collected, RepGrid Analysis, and then analysed through PCA, has proven to be unique and thus offers a valuable alternative to existing methods for the construction of EI definitions.

In the attempt to continue the search for defining the construct of EI, the second study, which went beyond the former study, explored how the EI construct relates

to other constructs, namely, happiness, self-esteem, mood and personality. In conclusion, the results supported literature findings where EI correlates positively and significantly with happiness and self-esteem; constructs which also were identified as predictor variables. The findings of this second study extended existing literature by showing that happiness, global self-esteem, emotional stability, openness to experience, positively predicted EI with performance self-esteem having a negative effect. This suggests that participants may have experienced a negative sense of general competence. More notable, however, are the results from the mediation and moderation analysis. These reveal that EI can have either role, a finding that should be investigated further.

The experimental interventions aimed to offer credible results of well-designed studies. In conclusion, the results of the first experimental intervention concerned with the question whether levels of EI can be enhanced, were analysed, but no overall change took place. A number of reasons for this result were sought, including timing of intervention, random factors and chance. Thus, it was determined that a follow-up study was necessary to explore different ways to investigate whether changes in levels of EI could take place; bearing in mind that the study was also concerned with construct validity in that the quality of the experimental design was ensured via its application of solid statistical analyses and found satisfactory in producing credible results, similarly to the studies conducted by Nelis et al. (2009).

Whilst the former intervention yielded no positive changes, study four showed significant overall changes, concluding that levels of EI, happiness, self-esteem and life-satisfaction were enhanced, as a result of the intervention. Nonetheless, when drawing conclusions, it is important to remember that it remains unclear as

to what has been measured other than the qualities of EI, as stipulated by the TEIQue-SF. Nevertheless, overall the results warrant future research, particularly in relation to the potential value of the intervention, so as to test if there is a place for assessing EI in the applied field, a conclusion that will be further explored in the next section together with a number of other implications for future research.

6.3 Implications for Future Research

The conclusions summarised above, will function as a framework for the discussion concerning the implications for future research. At the centre of this part of the study lies the recognition that there emerged a number of limitations in each of the investigations that have been presented here. Overall, the conclusions of this research suggest that further investigations are essential to elucidate what is meant by EI. In line with this stance, Matthews et al. (2012) are exploring the notion whether EI should be a label for a broad field of enquiry into individual differences in affective functioning, rather than a singly well-defined personal quality. Although this research has not considered EI as a single versus multiple entity, the results may be usefully re-considered as part of this debate, for example, in view of the finding regarding work related qualities, or its role in relation to multiple variables. This final examination of the implications for future research will be guided by the three pillars of development suggested by Zeidner et al., (2009) for EI: conceptualisation, measurement and application.

Therefore, as a direct result of this study, future research may consider the need to re-evaluate what constitutes EI in view of the work related qualities identified in the search for a definition. Moreover, the method utilised in the first study may offer a fresh approach to the search for items suitable for the development of a

questionnaire that will test the variety of aptitudes, competencies and skills broadly identified by the literature as helpful in challenging emotive situations. Furthermore, such a questionnaire may offer the opportunity to explore the relationship between personality, mood and EI further and advance the validity of tests for EI which hitherto has been relatively modest.

As regards measurement, during the second study the investigation into correlations between EI, personality and mood questioned some of the existing claims (Ciarrochi et al., 2000) about their association. This leads to the suggestion that their relationships may require further investigation to explore the possibility of qualities related to EI that are not covered by present measurement tools. To this end, it is proposed that future attempts to develop a science of EI should consider the development of alternative measures that combine existing questionnaires like the TEIQue with items similar to those present in measures of specific EI components, such as mood items or situational judgement items, in an effort to add more objectivity to the subjective nature of self-reporting.

Moreover, future attempts to bring together questionnaire and intelligence testing, will have to employ ingenious methods to overcome the weaknesses of faking and establishing criteria for correct answers, respectively. Moreover, assessment methods may include computer technology and psychophysiological techniques, for example, multimedia situational judgement tests offer means by which aptitudes for emotional stimuli can be measured. The measurement of brain processes has already produced evidence that high and low levels of EI can be measured by applying electroencephalographic (EEG) responses to emotional stimuli (Jaušovec & Jaušovec, 2010). Indeed, as mentioned in Chapter Five,

Kotsou et al., (2011) report their first attempts to investigate the effects of EC intervention on neural activities.

Following the evaluation of the second study, it is evident that there is prevailing research investigating relationships between EI, happiness and self-esteem with mood and personality, which has taken a different direction from the previous, more general approaches. Specifically mood is now researched primarily within the context of mood regulation. Note should be taken of the mediation and moderation analysis, in that further investigations into EI's role will add to the understanding of how EI is able to influence relationships in the applied field. To this end, a study that includes multiple measures for each of the constructs under investigation may employ structural equation modelling to investigate comprehensively whether EI can have a mediating or moderating role when combined with other predictors.

Basic to this discussion about the implications for future research is the recognition that advancements in EI research are now dominated by the opposing arguments, whether EI is a single well-defined personal quality or an umbrella term for individual differences in affective functioning. There is, as yet, no evidence in the literature or as a result of this study, in favour of a single personal quality. Therefore, this chapter aims to complete by proposing a number of changes to the existing interventions. Acknowledging the results of the first experimental study, the design would benefit from an additional intervention and an inclusive change in the number of sessions. The second intervention would need to increase significantly the number of participants, and may also include a different task for the control group so as to produce stronger evidence.

Therefore, the proposed changes for the first experimental study would involve four sessions over four weeks, and include an intervention stimulated by the idea of emotional fitness (Algoe & Fredrickson, 2011), and the benefit of physical exercise and the ability to promote emotional energy and wellbeing. It is envisaged that the emotional fitness programme includes a theoretical element, to be offered as a foundation of learning, to channel the benefits of exercise into the enhancement of emotional energy and well-being. The proposal for the second intervention involves the replacement of the non-demanding reading task, for the control group, with an activity designed to challenge more strongly the idea that a positive thinking intervention will enhance levels of EI, happiness and self-esteem and well-being. The task would embrace the notion of personal development by relying on themes outside of recent EI developments. The activity should align itself with the social aspect of the positive thinking programme, for example, the development of self-esteem and confidence via a drama, art or singing led programme.

In summary, the attempt was made to present a number of conclusions, together with proposals for future research based on the in-depth examination of the results generated by this study. It is recognised that there is a need to further investigate the future of EC as a descriptor of the construct EI. Whilst there may be limitations not sufficiently explored here, it is relevant to conclude with a few additional observations. As assessment is most crucial for the advancement of EI investigations, further investigations should, not only, consider the need to advance EI assessment by including multimedia situational judgement tests and psychophysiological techniques, but also include different measures for happiness and self-esteem. Reference here is made to measures of authentic happiness versus authentic-durable happiness (Dambrun et al., 2012) and the

analysis of self-esteem versus compassion (Neff, 2011). It is relevant to mention that, at the heart of durable happiness lies the notion that the individual's inner resources and abilities are such that she or he is able to deal with the ups and downs of life in a state of durable 'plentiful' (Dambrun et al., 2012) that is not dependent on circumstances. The difference concerns fluctuating happiness, when phases of pleasure and displeasure repeatedly alternate, and durable happiness which does not depend on circumstances, but the strength of a person's inner resources.

Overall, the results contribute, generally, to the ongoing efforts to develop a science of EI, and specific contributions include the re-definition of EI that includes work-related descriptors and the identification of EI's role as mediator and moderator.

6.4 Chapter Summary

The aim of this chapter was to discuss the various findings generated during the course of this research, and to demonstrate how the requirements emerging from the research questions were met. The synthesis of data from each study suggested which personal characteristics should be central to the activities of the subsequent studies. Furthermore, the aim was to accentuate the varied methodologies that were employed in this investigation of a construct that has, not yet, been defined within one commonly agreed theory. Therefore, definitions of EI were explored and at the centre of this debate are the two competing approaches, ability EI and trait EI.

This research study acknowledged the credibility of both models, which are connected to the work of Perez, Petrides, & Furnham (2005) and Mayer, Salovey, & Caruso (2004). Separated from the popular media, these theorists embrace an ethical code that requires researchers to use appropriate psychometric procedures, and current scientific or professional knowledge to test designs of future research. It seems that EI has to be accepted as representing two distinct schools of thought, until such time when they may merge and generate one definition combining a number of theories, which is a clear consideration in the study of Nelis, et al., (2011). The aim of the present research was to offer greater insight into the construct of EI and to contribute to this development, in addition to producing a definition, exploring relationships and implementing a specifically designed training intervention.

As a final comment, it is important to stress that there is a meaningful place for EI. Aligned with the trait approach, it should be a label for a broad field of enquiry into individual differences, and best placed within the applied field. Such endeavour should acknowledge work-related descriptors of EI included, for example, in investigatory questionnaires. Future research into the relationships between EI and happiness, including authentic-durable happiness and self-esteem, including compassion, and EI's role as a mediator or moderator, should be designed for the benefit of training interventions in the health, education and occupational field.

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List of Appendices

Appendix A: Study Material listed by chapters 3-5

Chapter 3

3.1 Information sheet

Study: The definition of Emotional Intelligence: an exploration of individuals' personal constructions of Emotional Intelligence.

Information for participants

Dear Participant,

Thank you for participating in this study which investigates Emotional Intelligence, Self Esteem, Happiness and Psychological well-being.

This part of the study utilises a technique known as Repertory Grid Analysis to explore individuals' personal constructions of Emotional Intelligence (EI). The exercise will involve you in the identification of your own thoughts about this concept and you are required to attend for 60 minutes. You will be part of a small group of four and I would like to negotiate with you that the information discussed during the session will be held in strictest confidence.

The Repertory Grid method was initially designed by George Kelly (1905-1966) to facilitate the process of getting to know how individuals view their own world. Adapted from this procedure you will be required to:

- Think about the concept of Emotional Intelligence; to help you with this process you will be presented with a number of ideas which we will discuss when we meet.

- We will agree a list of descriptions or facets of EI which in the Repertory Grid method will become elements of EI.

- Individually, you will be asked to consider one of the elements of EI and identify four people in your life, two with high and two with low levels of the element. You will also be asked to think about where you see yourself at present and in the future.

- For example, let's assume we decided that optimism was an important element of EI. I will then ask you to think of two people you know, who are very optimistic and two who are very pessimistic. I will then ask you to note what sort of behaviours these people have in common, how do they differ and where you would place yourself in comparison with them. You will not have to share this with anyone else in the group.

- I will ask you to describe the behaviours you have identified which is known as building constructs in Repertory Grid terminology; it is important that these constructs reflect your own ideas and are based on your own experience. You may think that this method is quite subjective which is, of course, the case; however, you will also see in the next steps that some level of objectivity can be achieved.

- Once we have worked through a number of elements creating your own constructs, I will ask you to rate them from 1- 6.

- This completes your activity; I will de-brief you, answer any questions and close the session.

- I will analyse your ratings and produce an idea of what constitutes EI based on your own personal contribution.

- You will have the opportunity to view the findings at any one of my dissemination presentations

Thank you again for participating, just to recap on confidentiality, during the first part of the session we will discuss ideas and identify parts of EI as a group, during the second part you don't have to share any of your thoughts; the whole session, however, should be considered to be confidential. If you wish to withdraw from this study you can do so at any time.

All information collected is held in strictest confidence. Each participant is identified by a number to ensure confidentiality; all data will be stored on the personal computer of the researcher until completion of the PhD programme at which point data will be deleted and paper resources shredded. No other person has access to this computer.

I will ask you to sign a consent sheet. Should you be interested in the results and unable to attend one of the presentations I am happy to present the findings to you. You are not required to provide your personal details, for research purposes it would be helpful if you could identify yourself as male or female and provide your age.

Are there any questions? I will now ask you to sign the consent form, please detach the form and return it to me before proceeding.

Date of session: Time of session: Place of session:

Contact details of researcher: Elke Nauheimer elke.nauheimer@wlv.ac.uk

Supervisor: Dr Neil Morris, Dr Debra Cureton

3.2 Informed consent sheet

Informed Consent Sheet

Study: The definition of Emotional Intelligence: an exploration of individuals' personal constructions of Emotional Intelligence.

Researcher: Elke Nauheimer

Supervisors: Dr Neil Morris
Dr Chris Fullwood
Dr Debra Cureton

- I understand that the ethical requirements as outlined by the University of Wolverhampton are strictly adhered to.
- I understand that I will be required to participate in an exercise which will explore my thoughts about Emotional Intelligence using Repertory Grid analysis. I have read and understood the information sheet and understand the procedure and the requirement for confidentiality.
- I understand that the data collected is for research purposes only and that confidentiality is assured. All information collected is held in strictest confidence.
- I understand that each participant is identified by a number to ensure confidentiality; the data will be stored on the personal computer of the researcher until completion of PhD programme at which point data will be deleted and paper resources shredded. No other person has access to this computer.
- I am aware that I can withdraw from this study at any stage.
- I know that I can request a reminder for the date and time of the session, to this end I will provide an e-mail address or telephone number.

Name of participant	Date	Signature

3.3 Steps for completion

Steps in Completing the Repertory Grid

1. Think of TWO people you know now or have known in the past who, in your opinion, represent **good role models for having high levels of Emotional Intelligence.** *(Do not identify anyone by name, use a code to refer to each person).*

2. Think of TWO different people you know or have known in the past who, in your opinion represent **poor role models for having low levels of Emotional Intelligence.** *(Do not identify anyone by name, use a code to refer to each person).*

Use the Example grid to help you with steps 3-10.

3. For each row decide what attribute or characteristic (not physical) the TWO marked with a 'O' have in common, that makes them different from the third. *It is possible that a 'good' and a 'poor' role model might have something in common (whether it be a desirable or undesirable attribute or characteristic).*

4. Mark the two people who are similar by over writing the 'O' with an 'X' like this ().

5. Write a word or phrase in the 'similarity' column that describes how the two people are similar.

6. Write a word or phrase in the 'difference' column that describes how the third person is different.

7. Repeat steps 3-7 for each row

8. Now go down the 'similarity' column and place a tick beside the **desirable** (i.e. not undesirable or negative) attributes or characteristics.

9. Now go down the 'difference' column and again place a tick beside the **desirable** (i.e. not undesirable or negative) attributes or characteristics.

10. Finally rate EVERY person in each row on a scale of 1 (low) to 6 (high) according to how well they demonstrate the desirable attribute.

3.4 Completion sheet

Repertory grid

Participant Code: Sex: F M (please circle) Date:

Constructs Similarity Pole	Elements						**Constructs Difference Pole**
	Good Role Model	Poor Role Model	Good Role Model	Poor Role Model	Me as I am	Me as I want to be	
	O	O				O	
			O		O	O	
	O		O	O			
		O	O	O			
	O				O	O	
	O	O		O			
		O		O	O		
	O		O			O	
		O			O	O	
			O	O	O		

3.5 Initial table - Rotated Factor Loading

	Component 1 (+)			(-)	Component 2 (+)			(-)	Component 3 (+)			(-)
1=1	Emotional Control	.972	Positive Thinking	-.920	Social Awareness	.952	Relationship	-.806				
2	Optimism	.957	Organisation Time Skills	-.675	Awareness others' needs	.892	Organisation Time Skills	-.716				
3	Structured Thinking	5.60	Relationship Skills	-.305	Empathy	.759						
4	Empathy	.555			Doing best for others	.631						
5	Caring	.545										
1=2	Honest Sharing	.962			Optimism about self	.913						
	Happy Grateful	.962										
	Effective Coms	.962										
2	Self/others Awareness	.888			Accepting	.839						
3	Empathy	.832			Emotion Mgt	.765						
4	Appr. Humour	.568			Friendly Outgoing	.751						
5	Emotion Mgt	.476			Humour	.731						

6	Friendly outgoing	.409			Self Awareness	.449						
1=3	Empathy (neg)	.927			Optimism	.897			Outgoing	.954	Happiness	-.344
2	Giving	.899			Relaxed	.825			Accepting	.570		
	Emotional Stability	.899										
3	Self Critical	.837			Happiness	.801			Carefree	.500		
4	Accepting	.721			Carefree	.796			Relaxed Laid back	.305		
5	Happiness	.453			Accepting	.388			Optimism	.300		
6	Relaxed Laid back	.353			Emotional stability	.373						
					Giving	.373						
7	Carefree	.315										
1=4	Life Balance	.963	Aware of others	.981								
	Success Achievem	.963										
	Exceptional (being)	.963										
2	Relationships	.946	Realism	.463								
			Hard working	.463								
3	Optimism	.925	Knowledge Lif/Experien	.340								

			Adaptability Flexibility	.340								
4	Realism	.849										
	Hard Working	.849										
5	Knowledge Life/Experien	823										
	Adaptability Flexibility	.823										
1=5	Emotion Control	.978			Empathy	.872	Aware of others needs	-.960				
2	Looking for Best in others	.931			Assertiveness	.746	Emotion Control	-.932				
3	Understanding of others	.901			Confidence	.645						
4	Verbal skills Confidence	.832			Relationship Skills Mgt	.577						
5	Confidence Self/verbal	.662			Verbal skills Confidence	.317						
6	Assertiveness	.463										
7	Empathy	.436										
1=6	Listening Skills	.939			Adaptability	.971						
2	Non-judgemental	.928			Emotion Control	.922						
	Perception (effective)	.928										

3	Understanding of Others	.925			Respect	.834						
4	Understanding others	.763			Verbal Skills	.797						
5	Empathy	.620			Empathy	.747						
6	Respect	.457			Understanding of Others	..497						
7	Verbal Skills	.390			Perception (effective)	.363						
					Non-judgemental	.363						
8	Emotion Control	.345										
1=7	Understanding Others	.981			Empathy	.782	Emotion Honest	-.874	Emotion Awareness	.898		
2	Listening to others	.967			Generosity	.554			Emotion Honesty	.845		
3	Emotion Mgt	.942			Emotion Mgt	.301			Open/honest Emotion	.437		
	Love	.942			Love	.301						
	Understanding Others/empathy	.942			Understanding Others/empathy	.301						
4	Generosity	.788							Empathy	.301		
5	Empathy	.526										
1=8	Optimism	.953	Positivity	-.936								

			Emotion Control	-.936								
2	Ability to Learn (cook)	.940	Respect	-.403								
3	Humour appropriate	.889	Organisat. Skills	-.321								
4	Openness Feelings	.537										
5	Self-Respect	.489										
1=9	Focus on Task	.967			Thinking Object/method	.899						
2	Trust from others	.958			Openness to ideas	.872						
3	Love to show	.941			Dependability	.345						
4	Emotion Expression	.924										
5	Dependability	.916										
6	Adaptability	.899										
	Trust own feelings	.899										
1=10	Emotion Mgt	.942			Happy Optimism	.856	Strong	-.945				
					Happiness Level	.856	Emotion Expression	-.512				
2	Openness Mgt	.929										

3	Listening Skills (good)	.918										
4	Listening Skills (good)	.897										
5	Emotional Stability	.873										
6	Emotional Expression	.848										
7	Emotion Optimism	.788										
8	Happy Optimism	.444										
1=11	Adaptation In control	.968			Keep people together	.968						
	Expectations By others	.968										
2	Listening/seek supporting	.936			I’m Okay	.922						
3	Inclusive of people	.912			Nurturing	.916						
4	Calm presence	.663			Steadying presence	.884						
5	Happy	.608			Happy	.651						
6	Steadying presence				Calm presence	.588						

1=12	Empathy	.917			Generosity Kindness	.924			Understanding others	.992		
	Emotion Control	.917										
2	Openness	.908			Love	.921			Prioritising	.593		
3	Respect	.904			Prioritising	.771			Emotion control	.320		
									Empathy	.320		
4	Content with life	.761			Calm relaxed	.604						
5	Calm Relaxed	.644			Content with life	.602						
6	Love	.339			Respect for Others' needs	.347						

NOTES

3.6 Element of EI (Petrides & Furnham (2001) and factors of present study

Elements:

1. Emotion Perception clear about own and other people's feelings unable to understand how others feel

    a. Understanding others
    b. Knowing how others feel
    c. Feeling how others feel

2.	Emotion Expression	able to communicate feelings to others	not good at communicating own feeling

a. Showing how I feel
b. Sharing feelings
c. Clear about communicating

3.	Emotion Mgt of Self	capable of understanding and managing own feeling	unclear in understanding/mgt own feelings

a. Knowing myself
b. Knowing my feelings
c. In control of my feelings

4.	Emotion Mgt of Others	capable of understanding/managing feelings of others	unclear in interpreting/mgt feelings of others

a. In control of others' feelings
b. Interpreting correctly
c. Managing emotional situation

5.	Emotion Regulation	capable of controlling own emotions	own emotions out of control

a. Controlling my feelings
b. Censoring my feelings
c. Managing emotional group feelings

6.	Relationships	capable of having fulfilling personal relationships	personal relationships not working

a. Having good relationships
b. Managing difficult relationships

c. Having fulfilling relationships

7.	Adaptability	flexible and willing to adapt to new condition	unable/inflexibility in new situations

a. Changing behaviour to the situation
b. Adapting to new situation
c. Adapting to changing relationships

8.	Social Awareness	accomplished networks with excellent social skills	poor social/networking ability

a. Socially aware
b. Getting on with people
c. Good communicator

9.	Optimism	confident and likely to “look on the bright side” of life	poor self- image and negative attitudes

a. Looking at situations optimistically
b. Having a deep feeling of hope
c. Sharing optimism with others

10.	Empathy	capable of taking someone else’s perspective	unable to stand in someone else’s shoes

a. Having sense of sympathy
b. Feeling for others
c. Putting in other people shoes

11.	Happiness	cheerful and satisfied with their lives	unhappy about own live

a. Happy about self
b. Happy about others

c. Sharing happy feeling

12. Self-motivation	driven and unlikely to give up in the face of adversity	inability to motivate oneself

a. Knowing how to move on
b. Motivating self
c. Sharing motivation

13. Self-esteem	successful and self-confident	low self-esteem, lacks confidence

a. Feeling good about self
b. Liking oneself
c. Liking who you are

The elements 1-3 (Petrides & Furnham, 2001) are listed together with explanations of their meanings on either end of the spectrum. Listed below are the corresponding key terms (a-c) generated from this study.

Chapter 4

4.1 Information Sheet

Number _____

Dear Participant

Thank you for participating in this test session, all the information collected here is held in strictest confidence.

Each participant is identified by a number to ensure confidentiality, should you be interested in the results I am happy to present the findings to you.

You are not required to provide your personal details, for research purposes it would be helpful if you could identify yourself as male or female and provide your age.

Please circle: Male Female Age: _____

Enclosed you will find a number of tests. Following the initial instructions by the test administrator you will find that each test has also its own brief instructions; please try to work through each test swiftly by responding honestly and openly.

List of tests

1. The Oxford Happiness Questionnaire (OHQ)
2. Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF)
3. Current Thoughts Scale (CTS)
4. Rosenberg Self-Esteem Scale (RSE)
5. UWIST Mood Adjective Checklist (UWAC)
6. 10 Item Personality Inventory (TIPI)

Thank you again for taking part

Elke Nauheimer

Date of test session: Time of test session:

4.2 Informed consent sheet

Psychological well-being informed consent sheet

Researcher: Elke Nauheimer

Supervisors: Dr Neil Morris
Dr Chris Fullwood

- I understand that the ethical requirements as outlined by the University of Wolverhampton are strictly adhered to.

- I understand that I will be required to complete six tests. The tests measure levels of self esteem, happiness, mood and emotional intelligence:

    1. Rosenberg Self-Esteem Scale (RSE)

    2. The Oxford Happiness Questionnaire (OHQ)

    3. Current Thoughts Scale (CTS)

    4. UWIST Mood Adjective Checklist (UWIST)

    5. Trait Emotional Intelligence Questionnaire–Short Form (TEIQue-SF)

    6. Ten-Item Personality Inventory (TIPI)

- I understand that the data collected is for research purposes only and that confidentiality is assured.

- I am aware that I can withdraw from the session at any time.

_____ _____ _____

Name of participant Date Signature

4.3 Study outline and instructions

Study outline and Instructions

The study you agreed to participate in investigates Emotional Intelligence (EI), Self-esteem(SE), Happiness (HA), Mood (MO), Personality (PE) and Psychological well-being (PW). The study is a correlational design which utilises a number of conditions and is implemented in three phases. Phase one explores what defines EI, phase two looks at how EI relates to SE, HA, MO, PE and phase three will employ an experimental approach to explore if, for example, relaxation will make a difference to EI and the remaining variables.

You have agreed to participate in phase two which will employ the Pearson's correlation to measure the association or relationship between EI and HA, MO and PE.I also want to find out if EI can be predicted by employing a multiple regression. I am happy to share my findings or provide further details if you are interested.

Are there any questions at this point?

I will ask you to wait for instructions until everyone has received a test booklet. I will then ask you to have a look at the information sheet (Study 2/1 Info) which is attached to the test booklet; please circle if you are male or female and provide your age. You will see that there is a number on top of the page to ensure that the information you give confidential. The informed consent sheet is loosely attached and will be stored separately. Once I start to score your test booklets you will no longer be identified by your name but a number. The data I am collecting today will be stored on my personal computer to which no one else has access to.

Are there any questions before I deliver the instructions?

Let me explain first, when I say 'please start' (and not until then) I would like you to open the test booklet and complete each test as quickly as you can, all questions are about you personally and how you feel. Each test has its own individual instruction and there is no time limit. Once you have completed all tests please wait quietly until everyone has finished.

Are there any questions before we start? 'Please start now'

4.4 Summary of Pilot study

The aim of this pilot is to evaluate primarily how long test instructions and completion of tests by participant would take. To achieve this five participants were recruited verbally from the student body of the University of Wolverhampton and invited to complete the tests. Each test was timed separately and the averaged time provided the estimated time in minutes for the actual test session of study 2.

The tests utilised for the pilot:

1. Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF), (Petrides & Furnham, 2003).

2. The Oxford Happiness Questionnaire (OHI), (Hills & Argyle, 2002)

3. UWIST Mood Adjective Checklist (UMACL), (Matthews, Jones & Chamberlain, 1990)

4. The state Self-Esteem Scale (SSES), (Heathertom & Polivy, 1991)

5. Ten-Item Personality Inventory (TIPI), (Gosling, Rentfrow & Swann)

6. Rosenberg Self-Esteem Scale (RSE), (Rosenberg, 1965)

Table 1: Time of test delivery

Tests	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Average Time
1	5	4	4	5	7	5
2	5	4	4	4	7	4.2
3	5	4	5	4	7	5
4	3	3	4	4	6	4
5	4	3	3	3	6	3.8
6	4	4	4	4	7	4.6
Total	26	22	24	24	40	**26.6**

Time in minutes: average time 26.6

Chapter 5

5.1 Recruitment poster

Would you like to find out how positive you are or learn how to relax?

I am looking for 90 participants for my study which investigates Emotional Intelligence and psychological well-being. Specifically, I would like to explore the suggestion that psychological well-being can be improved through the use of relaxation exercises or positive thinking exercises.

You will be able to participate in one of three groups: Group one will engage in a programme of relaxation, group two in a programme of positive thinking and group three in a reading programme. You are required to attend three sessions over three weeks, session one and three will last 45 minutes and session two 30 minutes. You will be able to gain credits for two hours.

There will be a number of briefing sessions where you can find out more:

Date: **Time:** **Place:**

You can also contact Elke on 07974104248 / e.nauheimer@btopenworld.com

5.2 Summary sheet for briefing session

Emotional Intelligence and well-being: Briefing Session

Good morning- thank you for attending this briefing session, I am looking for 90 participants for my study which investigates the relationship between Emotional Intelligence and well-being. I am specifically interested in finding out if well-being can be improved through a programme of relaxation or positive thinking. To this end,

I am looking to recruit for three groups:

Group 1 Progressive Relaxation Programme

Group 2 Positive Thinking Technique Programme

Group 3 Reading Programme

You will be required to attend three sessions and complete six tests to generate pre and post scores for analysis. The duration of the first and last session is 45 minutes and the second is 30 minutes. The reason for the difference in timing is the requirement to complete the 6 tests listed below at the start and close of the programme:

1. Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 2009)
2. The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)
3. UWIST Mood Adjective Checklist – UMACL (Matthews, Jones, Chamberlain, (1990)
4. The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)
5. Ten Item Personality Inventory – TIPI (Gosling, Rentfrow & Swann, 2003)
6. Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)

All the information collected from this study is held in strictest confidence; each participant is identified by a number to ensure confidentiality and you are not required to provide personal details, for research purposes it would be helpful if you could identify yourself as male or female and provide your age. Prior to participating in this study you will receive details about each procedure and you are required to sign the informed consent sheet.

Are there any further questions? If you would like to contact me call 07974104248 or send a message to e.nauheimer@btopenworld / elke.nauheimer@wlv.ac.uk

5.3 Timetable for groups (example)

	Monday Date…	**Monday Date…**	**Monday Date…**
Group 1	**Time: 2pm**	**Time: 2pm**	**Time: 2pm**
Group 2	**Time: 3pm**	**Time: 3pm**	**Time: 3pm**
Group 3	**Time: 4pm**	**Time: 4 pm**	**Time: 4pm**
	Wednesday Date…	**Wednesday Date…**	**Wednesday Date…**
Group 3	**Time: 2 pm**	**Time: 2 pm**	**Time: 2pm**
Group 4	**Time: 3 pm**	**Time: 3 pm**	**Time: 3 pm**
Group 5	**Time: 4 pm**	**Time: 4 pm**	**Time: 4 pm**

5.4 Summary of tests utilised for this study

1. Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 200

2. The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)

3. UWIST Mood Adjective Checklist – UMACL (Matthews, Jones, Chamberlain, (1990)

4. The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)

5. Ten Item Personality Inventory – TIPI (Gosling, Rentfrow & Swann, 2003)

6. Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)

All tests are self-report measures, some generating 1 score, others 3 or 4. This will be reflected in the analysis when all scores will be investigated.

5.5 Information sheet for participants

Welcome and outline of the Progressive Relaxation study

Dear Participant

Thank you for participating in this study which investigates Emotional Intelligence and psychological well-being.

All the information collected is held in strictest confidence. Each participant is identified by a number to ensure confidentiality and I will ask you to sign a consent sheet. You are not required to provide your personal details, for research purposes it would be helpful if you could identify yourself as male or female and provide your age.

Overall, the study utilises a number of experimental conditions and the purpose of this relaxation programme is to generate pre-and post-intervention data through the application of six psychometric tests. Should you be interested in the results I am happy to present the findings to you.

This part of the study utilises techniques from the field known as emotional relaxation and the suggestion that psychological well-being can improve through the use of relaxation technique and that muscle relaxation is positively related to emotional relaxation (E Jacobson, 1938, 1955).

During the first session you will be required to complete six tests. I will then deliver a relaxation script which will allow you to experience different levels of relaxation. The session is timed for 45 minutes and will close with a reminder of the second session.

The second session is timed for 30 minutes and will comprise the delivery of the relaxation script. As during the first session you will experience varying levels of relaxation. The session will close with a reminder of the third session.

Session three timed at 45 minutes, will comprise the delivery of the relaxation script immediately followed by the completion of the six tests which you completed during the first session. At the end of this session I will offer some information about relaxation if you are interested.

Are there any questions? I will now ask you to sign the consent form, find below the details for date, time and place. Thank you for taking part in this experiment.

Date of test session: Time of test session: Place of session

5.6 Informed consent sheet

Psychological well-being informed consent sheet

Researcher: Elke Nauheimer

Supervisors: Dr Neil Morris, Dr Chris Fullwood, Dr Debra Cureton

- I understand that the ethical requirements as outlined by the University of Wolverhampton are strictly adhered to.

- I understand that I will be required to complete six tests. The tests measure levels of emotional intelligence, happiness, mood, personality and self-esteem:

    1. Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 200
    2. The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)
    3. UWIST Mood Adjective Checklist – UMACL (Matthews, Jones, Chamberlain, (1990)
    4. The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)
    5. Ten Item Personality Inventory – TIPI (Gosling, Rentfrow & Swann, 2003)
    6. Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)

- I am aware that I will consent to participate in a relaxation exercise which may allow me to experience varying levels of relaxation. I have examined the programme and know what I am signing up to.

- I understand that the relaxation exercise script is strongly reliant on muscle relaxation and that this activity will not influence my thinking.

- I understand that the data collected is for research purposes only and that confidentiality is assured. All information is held in strictest confidence.

- I understand that each participant is identified be a number to ensure confidentiality; the data will be stored on the personal computer of the researcher until supervisors and examiner are satisfied that she has completed the PhD programme at which point data will be deleted and paper resources shredded. No other person has access to this computer.

- I am aware that I can withdraw from this study.

_____ _____ _____

Name of participant Date Signature

5.7 Instructions to participants for PR

Session one

Part one

Introduction: Thank you again very much for participating. I would just like to check first of all that everybody has signed the consent sheet and I will now ask you to fill out the prior learning checklist *collect upon completion*.

During this part of the session you are required to complete 6 tests, when I say 'you may start now' I would like you to complete the tests as swiftly as you can. Please don't think about your answers too long, first responses are probably best. The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions: 'You may start now' *collect upon completion*.

Part two

Introduction: I will now deliver an exercise script which will help you to relax; some people relax faster or experience deeper levels of relaxation than others and I would like to negotiate your full participation, you may not experience as deep a level of relaxation as the person sitting next to you. When I ask you to close your eyes I want you to keep them closed until the exercise is completed. I would like you to just follow my instructions.

The technique I am using will allow you to learn how to relax. The wording is such that it will enable you to practice muscle and mind relaxation outside of this session. It does not interfere with the way you think, it simply shows you a technique which you can develop yourself, if you so wish.

Are there any questions?

Instructions pre delivery: From now on, please do not talk among yourselves. I will now deliver the script

Instructions post delivery: Is everybody feeling alright? Relaxed? If you want to you can practice this exercise, just repeat the instructions as you can remember them. We will meet again (date etc) and I will repeat this exercise.

Session two

Introduction: Welcome, thank you for returning to continue as a participant of this study. Again, I would like to assure you of confidentiality. Today I will repeat the delivery of the script; this may deepen your experience of relaxation.

Instructions pre-and post delivery: as in session one, *alter date/time*

Session three

Part one

Introduction: Welcome to the third and last session of this experiment, today I will repeat the delivery of the script, upon completion you are required to fill out the 6 tests.

Instructions pre delivery: as in session one/two

Instructions post delivery: Is everybody feeling alright? Relaxed? If you want to you can practice this exercise, just repeat the instructions as you can remember them.

Part two

Introduction: During this part of the session you are required to complete 6 tests, when I say ‘you may start now’ I would like you to complete the test booklets as swiftly as you can. Please don’t think about your answers too long, first responses are probably best. The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions: ‘You may start now’ *collect upon completion*

At the close of the session participants are thanked for taking part.

5.8 Information sheet for participants

Welcome and outline of the Positive Thinking study

Dear Participant

Thank you for participating in this study which investigates Emotional Intelligence and psychological well-being.

All the information collected is held in strictest confidence. Each participant is identified by a number to ensure confidentiality and I will ask you to sign a consent sheet. You are not required to provide your personal details, for research purposes it would be helpful if you could identify yourself as male or female and provide your age.

Overall, the study utilises a number of experimental conditions and the purpose of this positive programme is to generate pre-and post-intervention data through the application of six psychometric tests. Should you be interested in the results I am happy to present the findings to you.

This part of the study utilises techniques from the field known as emotional optimism which relates to M. Seligman, the author of Learned Optimism (1998) and Authentic Happiness (2003). The Positive Thought Exercise explores the power of positive and negative self-talk and allows you to maximise your positive feelings.

During the first session you will be required to complete six tests. I will then deliver a positive thinking exercise which will allow you to explore your positive and negative self-talk. The session is timed for 45 minutes and will close with a reminder of the second session.

The second session is timed for 30 minutes and will comprise the delivery of the concept of the internal critic. As during the first session you may experience varying levels of feelings, positive and negative. The session will close with a reminder of the third session.

Session three timed at 45 minutes, will comprise the delivery of an exercise that supports positive change immediately followed by the completion of the six tests which you completed during the first session. At the end of this session I will offer some information about relaxation if you are interested.

Are there any questions? I will now ask you to sign the consent form, find below the details for date, time and place. Thank you for taking part in this experiment.

Elke Nauheimer

Date of test session: Time of test session: Place of session:

5.9 Appendices: Informed consent sheet

Psychological well-being informed consent sheet

Researcher: Elke Nauheimer

Supervisors: Dr Neil Morris, Dr Chris Fullwood, Dr Debra Cureton

- I understand that the ethical requirements as outlined by the University of Wolverhampton are strictly adhered to.

- I understand that I will be required to complete six tests. The tests measure levels of emotional intelligence, happiness, mood, personality and self-esteem:

    1. Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 200
    2. The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)
    3. UWIST Mood Adjective Checklist – UMACL (Matthews, Jones, Chamberlain, (1990)
    4. The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)
    5. Ten Item Personality Inventory – TIPI (Gosling, Rentfrow & Swann, 2003)
    6. Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)

- I am aware that I will consent to participate in a positive thinking exercise which provides the opportunity to learn about negative and positive self-talk. I have examined the programme and know what I am signing up to

- I understand that the data collected is for research purposes only and that confidentiality is assured. All information is held in strictest confidence.

- I understand that each participant is identified be a number to ensure confidentiality; the data will be stored on the personal computer of the researcher until supervisors and examiner are satisfied that she has completed the PhD programme at which point data will be deleted and paper resources shredded. No other person has access to this computer.

- I am aware that I can withdraw from this study and that I will be invited to a dissemination of results session.

_____ _____ _____

Name of participant Date Signature

5.10 Instructions to participants

Session one

Part one

Introduction: Thank you again very much for participating. I would just like to check first of all that everybody has signed the consent sheet *collect upon completion*

During this part of the session you are required to complete 6 tests, when I say 'you may start now' I would like you to complete the test booklet as swiftly as you can. Please don't think about your answers too long, first responses are probably best. The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions: 'You may start now' *collect upon completion*

Part two

Introduction: I will now introduce you to the positive thinking programme, we will engage in a number of activities that will help you to identify some of your negative beliefs about yourself and turn them into positive beliefs. I have prepared the programme in a way that encourages you to participate, there will be opportunities to discuss issues in the group or just with one person. I have also prepared some hand-outs for you to take *hand out activities*

'Please turn to the first exercise which focusses on positive and negative self-talk, are there any questions?' *deliver activity 1*

The session closes with a reminder of the next session.

Session two

Introduction: Welcome, thank you for returning, again, I would like to assure you of confidentiality. Let me re-cap on last week's positive and negative self-talk activity. Today we will take a closer look at the internal critic, I would like you to assess your own levels and then identify one belief that you might like to change

deliver activity 2

The session closes with a reminder of the next session.

Session three

Part one

Introduction: Welcome to the third and last session of this programme, again let me assure you about confidentiality, last week you identified one belief that you may want to change, today I will introduce you to an exercise that helps with this change

deliver activity 3

Part two

Introduction: During this part of the session you are required to complete 6 tests, when I say ‘you may start now’ I would like you to complete the test booklets as swiftly as you can. Please don’t think about your answers too long, first responses are probably best. The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions: ‘You may start now’ *collect upon completion*

At the close of the session participants are thanked for taking part.

5.11 Information sheet for participants

Welcome and outline of the Reading Group activity

Dear Participant

Thank you for participating in this study which investigates Emotional Intelligence and psychological well-being.

All the information collected is held in strictest confidence. Each participant is identified by a number to ensure confidentiality and I will ask you to sign a consent sheet. You are not required to provide your personal details, for research purposes it would be helpful if you could identify yourself as male or female and provide your age.

Overall, the study utilises a number of experimental conditions and the purpose of this reading group programme is to generate pre-and post-intervention data through the application of six psychometric tests. Should you be interested in the results I am happy to present the findings to you.

You will be required to undertake a non-demanding reading task which means reading for leisure and not for your studies. A variety of magazines will be made available to you and electronic devices are not permitted during the test sessions.

During the first session you will be required to complete six tests. I will then instruct you to start your reading task. The session is timed for 45 minutes and will close with a reminder of the second session.

The second session is timed for 30 minutes and will comprise the reading task only. The session will close with a reminder of the third session.

Session three timed at 45 minutes, will comprise the reading task immediately followed by the completion of the six tests which you completed during the first session. At the end of this session I will offer some information about the study if you are interested.

Are there any questions? I will now ask you to sign the consent form, find below the details for date, time and place. Thank you for taking part in this experiment.

Elke Nauheimer

Date of test session: Time of test session: Place of session

5.12 Informed consent sheet

Reading Group informed consent sheet

Researcher: Elke Nauheimer

Supervisors: Dr Neil Morris, Dr Chris Fullwood, Dr Debra Cureton

- I understand that the ethical requirements as outlined by the University of Wolverhampton are strictly adhered to.

- I understand that I will be required to complete six tests. The tests measure levels of emotional intelligence, happiness, mood, personality and self-esteem:

    1. Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 200
    2. The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)
    3. UWIST Mood Adjective Checklist – UMACL (Matthews, Jones, Chamberlain, (1990)
    4. The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)
    5. Ten Item Personality Inventory – TIPI (Gosling, Rentfrow & Swann, 2003)
    6. Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)

- I am aware that I will consent to participate in a no-demanding reading task. I have examined the programme and know what I am signing up to.

- I understand that the data collected is for research purposes only and that confidentiality is assured. All information is held in strictest confidence.

- I understand that each participant is identified be a number to ensure confidentiality; the data will be stored on the personal computer of the researcher until supervisors and examiner are satisfied that she has completed the PhD programme at which point data will be deleted and paper resources shredded. No other person has access to this computer.

- I am aware that I can withdraw from this study.

_____ _____ _____

Name of participant Date Signature

5.13 Instructions to participants

Session one

Part one

Introduction: Thank you again very much for participating. I would just like to check first of all that everybody has signed the consent sheet *collect upon completion*

During this part of the session you are required to complete 6 tests, when I say 'you may start now' I would like you to complete the test booklet as swiftly as you can. Please don't think about your answers too long, first responses are probably best. The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions: 'You may start now' *collect upon completion*

Part two

Introduction: I will now instruct you to start your reading task, you will find a variety of magazines on the table, you may start now *provide magazines*

The session closes with a reminder of the next session.

Session two

Introduction: Welcome, thank you for returning, again, I would like to assure you of confidentiality. I will now instruct you to start your reading task, you will find a variety of magazines on the table, you may start now *provide magazines*

The session closes with a reminder of the next session.

Session three

Part one

Introduction: Welcome to the third and last session of this programme, again let me assure you about confidentiality. I will now instruct you to start your reading task, you will find a variety of magazines on the table, you may start now *provide magazines*

Part two

Introduction: During this part of the session you are required to complete 6 tests, when I say 'you may start now' I would like you to complete the test booklets as swiftly as you can. Please don't think about your answers too long, first responses are probably best.

The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions: ‘You may start now’ *collect upon completion*

At the close of the session participants are thanked for taking part.

5.14 Multimodal Relaxation Method Script.

Begin by sitting comfortably on a chair and close your eyes. If at any time during the exercise you feel any odd feelings such as tingling sensations, light-headedness, or whatever, this is quite normal. If you open your eyes then these feelings will go away. If you carry on with the exercise usually these feelings will disappear anyway.

If you would like to listen to the noises outside the room first of all.

Long pause

And now listen to the noises inside the room.

Pause

You may be aware of yourself breathing.

These noises will come and go throughout this session and you can choose to let them just drift over your mind or ignore them if you wish.

Pause

Now keeping your eyelids closed and without moving your head, I would like you to look upwards, your eyes closed, just look upwards.

Long pause

Notice the feeling of tiredness.

Pause

And relaxation.

Pause

In your eye muscles.

Pause

Now let your eyes drop back down.

Pause

Notice the tiredness and relaxation in those muscles of your eyes.

Pause

Let the feeling now travel down your face to your jaw, just relax your jaw.

Long pause

Now relax your tongue.

Pause

Let the feeling of relaxation slowly travel up over your face to the top of your head.

Pause

To the back of your head.

Long pause

Then slowly down through your neck muscles.

Pause

And down to your shoulders.

Long pause

Now concentrate on relaxing your shoulders, just let them drop down.

Pause

Now let that feeling of relaxation now in your shoulders slowly travel down your right arm, down through the muscles, down through your elbow, down through your wrist, to your hand, right down to your finger tips.

Long pause

Let the feeling of relaxation now in your shoulders slowly travel down your left arm, down through your muscles, down through your elbow, through your wrist, down to your hand, right down to your finger tips.

Long pause

And let that feeling of relaxation now in your shoulders slowly travel down your chest right down to your stomach.

Pause

Just concentrate on your breathing.

Pause

Notice that every time you breathe out you feel more …

Pause

… and more relaxed.

Long pause

Let the feeling of relaxation travel down from your shoulders right down your back.

Long pause

Right down your right leg, down through the muscles, through your knee, down through your ankle.

Pause

To your foot, right down to your toes.

Long pause

Let the feeling of relaxation now travel down your left leg.

Pause

Down through the muscles, down through your knee, down through your ankle.

Pause

To your foot, right down to your toes.

Long pause

I'll give you a few moments now.

Pause

To allow you concentrate on any part of your body that you would like to relax further …

15 second pause minimum

… I want you to concentrate on your breathing again.

Pause

Notice as you breathe.

Pause

On each out-breath you feel more and more relaxed.

Long pause

I would like you in your mind to say a number of your choice such as the number one.

Pause (NB: If the number ‘one’ evokes an emotion then another number can be chosen instead)

And say it every time you breathe out.

Long pause

This will help you to push away any unwanted thoughts you may have.

Pause

Each time you breathe out just say the number in your mind.

30-second pause

I want you now …

Pause

… to think of your favourite relaxing place.

Long pause

Try and see it in your mind’s eye.

Long pause

Look at the colours.

Pause

Now focus on one colour.

Pause

Now concentrate on any sounds or noises in your favourite relaxing place. If there are no sounds, then focus on the silence.

Long pause

Now concentrate on any smells or aromas in your favourite relaxing place.

Long pause

Now just imagine touching something.

Pause

In your favourite relaxing place.

Long pause

Just imagine how it feels.

Long pause

I want you now to concentrate on your breathing again.

Pause

Notice once again that every time you breathe out.

Pause

You feel more …

Pause

… and more relaxed.

Long pause

Whenever you want to in the future you will be able to remember your favourite place or

the breathing exercise and it will help you to relax quickly.

Long pause

In a few moments' time, but not quite yet, I'm going to count to three.

Pause

And you will be able to open your eyes in your own time.

Pause (NB: Or insert, 'go off to sleep', if used as a recording to overcome sleeping difficulties)

One.

Pause

Two.

Pause

Three.

Pause

Open your eyes in your own time.

 The Coaching Psychologist, Vol. 4, No. 2, August 2008

5.15 The positive thinking programme

Positive Thinking Programme

June 2009
(as in June 2007)

Positive Thinking Exercise Programme

Introduction

The intervention aims to explore positive self-talk can enhance levels of happiness and emotional well-being.

The activities start with a simple exercise to demonstrate the effects of negative and positive statements on emotions; this is followed by the introduction of the concept of self-talk and the participants are invited to explore the 'internal critic'. A further activity will take place later in pairs is where participants explore situations that make them defensive so as to identify their positive and negative self-talk. The exercises conclude with an activity, which allows participants to dispute their negative beliefs.

Activity One

Appendix 1.

Present participants with a scenario: You are about to have your second interview for a job you really want. Show the first hand-out and ask them to read through the list 5 times and then rate how they feel on a scale of 1 to 5:

How could I be so stupid?

I always screw up.

I'm biting off more than I can chew.

It's all going wrong

I'm hopeless

I'll never be able to finish it.

Not very happy……Very happy

0 1 2 3 4 5

Repeat activity as above, the aim is to reinforce the power of self-talk:

This is a great challenge.

If I keep calm, I'll get there.

I feel good about the future.

I'm going to do the best I can.

I feel really confident.

Life is great!

Not very happy……..Very happy

0 1 2 3 4 5

Activity Two

Appendix 2.

The activity aims to reinforce further the power of self-talk. Present participants with the self-talk cycle and discuss:

- Self-talk refers to how I talk to myself when reacting to an evaluation of my knowledge and skills.
- My self-talk may be positive or negative.

- Self-talk will reinforce my view of myself, particularly my self-esteem and self-efficacy.

Activity Three

Having high levels of self-esteem and efficacy and being optimistic will result in a happier and healthier life. However, positive views of ourselves are often influenced by basic forces of fear and defensiveness, which get embedded in our thoughts and become our internal critic.

Discuss the characteristics of negative self-talk that may lead to:

- Irrational talk, but it sounds like the truth.
- Avoidance of problems, which can bring on panic.
- Putting yourself down, not admitting to success. Amplified physical symptoms.
- Unrealistic high standards. Coping fine if just not good enough.
- Hypersensitivity about what other people think. You assume they are thinking the worst.
- We are not born with negative self-talk. It's a learned response that can be unlearned.
- When in social situations, people may ask awkward questions and you are stuck for an answer.
- Someone may think that your ideas are not worth pursuing.
- Someone reminds you of something you ought to have done.

Characteristics of negative self-talk

It is not enough to cope effectively, I have to be perfect.	Unrealistic self-expectations set the scene for failure.
It's a disaster of somebody doesn't think well of me.	People get immobilised by their belief what everyone else thinks about their performance and is critical.
Just look at what I have done. That's typical of me. I'm hopeless.	Weakness and setbacks get centre stage. Strengths and successes get shunted aside.
I am anxious, my guts are in turmoil, I can't cope.	Normal anxiety reactions like butterflies in the stomach surge into panic or anger.

Activity Four

Distribute the 'internal critic' questionnaire and examine the ratings with the group; followed by the concept of strengthening self-beliefs.

Appendix 3.

Positive Thinking

- You are in charge of your own destiny, nobody else is.
- If you have a problem that you can do something about, do it.
- If you have a problem you can't do anything about, it's not a problem, it's fact. Incorporate it into your plans.
- No good will come from worrying.

Purposeful self-talk

- Put a stop to your negative self-thoughts.
- Reward yourself with self-praise.
- Make coping statements to help you deal with stressful events, before, during and after.
- Make word pictures to describe where you want to be.
- Make it positive.

Owning the problem

- Take responsibility for your own learning.
- If you make a mistake, use the experience as a springboard for the future.
- Don't blame yourself, but don't blame anyone else either.
- When there are problems, don't sit worrying – think about a plan to solve them.

Acknowledging your strengths

- Make a list of what you have achieved.
- You don't have to boast, but make sure other people are aware of your achievements.
- If other people praise you, accept it as real.
- Tell yourself that you can achieve the goals you want to achieve.

Activity Five

Ask participants to identify one particular part of themselves they want to strengthen.

Appendix 4.

Identify (3)

1. _____
2. _____
3. _____

Identify what you would think to change (1)

1. _____

Activity Six

Appendix: Re-visit 3.3 and 3.4

Lead a discussion and encourage participants to dispute their own internal critic. This will be followed by:

1. Describe a situation that makes you defensive or makes you feel inadequate.
2. Describe your inner negative voice or internal critic.
3. Describe what you would like to happen in that situation.

Complete activity with ‘Strengthening your self-beliefs.

Some of the exercises, which were used for research activities only, were adapted from the training programme: Bagshaw, M., (2000) Emotional Intelligence at Work, Fenman Limited.

Positive Thinking Programme

Appendices: Four hand-outs

1) The effects of negative and positive emotions

2) The Self-talk cycle

3) The internal critic

i) Questionnaire

ii) Scoring sheet

iii) Disputing your internal critic

iv) Strengthening your self-beliefs

4) Strengthening exercise

Appendix 1

Instructions: You are about to have your second interview for a job you really want. I want you to focus and to read through the list below 5 times and then rate how they feel on a scale of 1 to 5:

How could I be so stupid?

I always screw up.

I'm biting off more than I can chew.

It's all going wrong.

I'm hopeless.

I'll never be able to finish it.

Not very happy……Very happy

0 1 2 3 4 5

Instructions: I want you to repeat this exercise, you are about to have your second interview for a job you really want. I want you to focus and to read through the list below 5 times and then rate how they feel on a scale of 1 to 5:

This is a great challenge.

If I keep calm, I'll get there.

I feel good about the future.

I'm going to do the best I can.

I feel really confident.

Life is great!

Not very happy……..Very happy

0 1 2 3 4 5

Appendix 2

The self-talk cycle

Appendix 3.1

The Internal Critic

	Very Like Me	Like Me	Neither like Nor Unlike Me	Unlike Me	Very unlike me
1. I get upset over the most trivial put-down or snub					
2. I make myself anxious by constantly goading myself to do better, and then being critical of myself for not achieving perfection.					
3. In times of stress I always need someone stronger than me to rely on.					
4. I make myself anxious by imagining the worst possible outcome. I keep saying “What if…” and add something dreadful.					
5. I regret things as they are at present. I constantly tell myself how little progress I’m making. I feel helpless and stuck.					
6. I feel I should always be on top of everything, and not be the one to lose control.					
7. When I’m praised, I tend to minimise or discount it, and put myself down.					
8. I feel it’s easier to avoid difficulties than face up to them.					
9. I just keep telling myself to keep trying harder-so I keep on going till I drop					

Appendix 3.2

The Internal Critic

Consider the items which you have rated ‘Very like me’ or ‘Like me. The negative belief embodied in each item is shown below. Alongside each negative belief is the underlying hope in belief, which rarely is expressed, and the associated emotions, which block ones rational decision making

Negative Belief	Underlying hope	Associated emotions
1. I must **please o**thers all the time	To be understood and liked	Guilt, withdrawal
2. I must be **perfect**	To be seen as good enough	Anxiety, obsessive, pre-occupation
3. I am **dependent** on others	To be cared for	Blocked from dealing with problems alone
4. I have to **worry** about everything	To avoid catastrophe and to feel safe	Free-floating anxiety and excessive worrying
5. I am a v**ictim** of unfair treatment	To be rescued from my difficulties	Reactive, unmotivated, cynical
6. I need to be in **control**	To be appreciated	Loneliness, anger
7. I am **unworthy**	People will believe in me	Low self-esteem and low confidence
8. I’m safer **staying put**	If I avoid difficulties I won’t have to face up to them	Fear of conflict, risk avoidance
9. I must **try harder**	To be deserving of rest and enjoyment	Exhaustion, joylessness

Appendix 3.3

Disputing your internal critic

There are three main components of disputing your internal critic:

1. **IDENTIFICATION** of the irrational belief in your self-talk.

2. **SEPARATION** of the irrational beliefs from the rational beliefs.

3. **SELF-CHALLENGE** of the irrational beliefs, actively and vigorously.

Techniques of self-challenge

1. **THOUGHT STOPPING -** As soon as you recognise the hurtful critic's voice, say to yourself 'Stop it!" Remind yourself of all the ways low self-esteem hurts you. When you've shut your self-critic up, challenge the accuracy of these beliefs in a calm and thoughtful, but direct way.

2. **CHALLENGE ACCURACY -** Ask yourself 'Why do I believe this? Is there any objective evidence?' Challenge the mistaken assumptions and exaggeration inherent in the beliefs. You could try 'Would I like myself if I were perfect? You're being unreal. Pack it in. I'll do well enough and still enjoy myself."

3. **MAKE THE NEGATIVE PURPOSEFUL -** Replace the negative self-talk with more reasonable, self-tolerant self-talk:

'It's difficult for me to …'	→	'It's a challenge for me to…'
'I'll try to …'	→	'I'm going to…'
'I can't, because …'	→	'I could…'
'I wish …'	→	'I know …'
'I should…but…'	→	'I will…'
'I don't want …'	→	'I do want …'

The following exercise will help you to identify negative beliefs/self-talk and show you how to control those thoughts so that you are able to put difficult situations in perspective.

Appendix 3.4

Strengthening your self-beliefs

Keep this hand-out to refer to in difficult situations. Try reading through it at the end of each week.

POSITIVE THINKING	• You're in charge of your own destiny, nobody else • If you have a problem that you can do something about, do it. • If you have a problem you can't do anything about, it's not a problem, it's a fact. Incorporate it into your plans. • No good will come from worrying.

PURPOSEFUL SELF-TALK	• Put a stop to your negative self-thoughts. • Reward yourself with self-praise • Make coping statements to help you to deal with stressful events, before, during and after • Making word pictures to describe where you want to be. • Make it positive.

OWNING THE PROBLEM	• Take the responsibility for your own learning • If you make mistakes, use the experience as a springboard for the future • Don't blame yourself, but don't blame everyone else either • When there are problems, don't sit worrying -think about a plan to solve them.

ACKNOWLEDGING YOUR STRENGTHS	• Male a list of what you have achieved • You don't boast, but make sure other people are aware of your achievements • If other people praise you, accept it as real • Don't make too much of your strengths, or that could become a weakness.

Appendix 3.4

Strengthening your self-beliefs

Keep this hand-out to refer to in difficult situations. Try reading through it at the end of each week.

POSITIVE THINKING	• You're in charge of your own destiny, nobody else • If you have a problem that you can do something about, do it. • If you have a problem you can't do anything about, it's not a problem, it's a fact. Incorporate it into your plans. • No good will come from worrying.

PURPOSEFUL SELF-TALK	• Put a stop to your negative self-thoughts. • Reward yourself with self-praise • Make coping statements to help you to deal with stressful events, before, during and after • Making word pictures to describe where you want to be. • Make it positive.

OWNING THE PROBLEM	• Take the responsibility for your own learning • If you make mistakes, use the experience as a springboard for the future • Don't blame yourself, but don't blame everyone else either • When there are problems, don't sit worrying -think about a plan to solve them.

ACKNOWLEDGING YOUR STRENGTHS	• Make a list of what you have achieved • You don't boast, but make sure other people are aware of your achievements • If other people praise you, accept it as real • Don't make too much of your strengths, or that could become a weakness.

Appendix 4

Instructions: I would like you to identify one particular part of yourself that you would like to strengthen. It is not always easy to find one particular part of yourself, to help you with this exercise, please find three parts that you would like to strengthen first.

Identify (3)

1. _____
   _____
   _____

2. _____
   _____
   _____

3. _____
   _____
   _____

Instructions: Now have a look at the three parts you identified and single out the most important part.

Identify what you would think to change (1)

1. _____
   _____
   _____

Note: Please feel free to talk this through with any person in the group – someone you feel comfortable with.

5.16 Recruitment poster

Would you like to find out positive you are?

I am looking for 24 participants for my study, which investigates Emotional Intelligence, Happiness, Self-esteem and Life Satisfaction. Specifically, I would like to explore the suggestion that psychological well-being can be improved through the use of positive thinking exercises.

You will be able to participate in one of two groups: Group one will engage in a programme of positive thinking and group two will engage in a reading programme.

You are required to attend six sessions over six weeks, session one and six will last 60 minutes and session two to five 30 minutes. You will be able to gain credits for participating.

There will be a number of briefing sessions where you can find out more:

Date: **Time:** **Place**

You can also contact Elke on 07974104248 / e.nauheimer@btopenworld.com

5.17 Summary sheet for briefing session

Emotional Intelligence and well-being: Briefing Session

Good morning- thank you for attending this briefing session, I am looking for 24 participants for my study, which investigates the relationship between Emotional Intelligence and well-being. I am specifically interested in finding out if well-being can be improved through a programme of positive thinking. To this end, I am looking to recruit for two groups:

Group 1	Positive Thinking Technique Programme
Group 2	Reading Programme

You will be required to attend six sessions and complete five tests to generate pre and post scores for analysis. The duration of the first and last session is 60 minutes and the remaining sessions will be 30 minutes. The reason for the difference in timing is the requirement to complete the tests listed below at the start and close of the programme:

Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 2009)

The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)

The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)

Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)

The Satisfaction with Life Scale – SWLS (Diener, Emmons, Larsen, Griffin, 1985)

All the information collected from this study is held in strictest confidence; each participant is identified by a number to ensure confidentiality and you are not required to provide personal details, although for research purposes it would be helpful if you could identify yourself as male or female and provide your age. Prior to participating in this study, you will receive details about each procedure and you are required to sign the informed consent sheet.

Are there any further questions? If you would like to contact me, please call 07974104248 or send a message to
e.nauheimer@btopenworld / elke.nauheimer@wlv.ac.uk

5.18 Timetable for groups (example)

	Monday Date…	Monday Date…	Monday Date…
Group 1	Time: 2pm	Time: 2pm	Time: 2pm
Group 2	Time: 3pm	Time: 3pm	Time: 3pm
Group 3	Time: 4pm	Time: 4 pm	Time: 4pm
	Wednesday Date…	Wednesday Date…	Wednesday Date…
Group 3	Time: 2 pm	Time: 2 pm	Time: 2pm
Group 4	Time: 3 pm	Time: 3 pm	Time: 3 pm
Group 5	Time: 4 pm	Time: 4 pm	Time: 4 pm

5.19 Summary of tests utilised for this study

In this study, the measures for Mood and Personality have been omitted and SWLS has been added in order to explore whether levels of satisfaction with life will change as a result of the positive thinking intervention, all tests are self-report measures.

1. Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 200
2. The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)
3. The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)
4. Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)
5. The Satisfaction with Life Scale – SWLS (Diener, Emmons, Larsen, Griffin, 1985)

5.20 Information sheet for participants

Welcome and outline of the Positive Thinking study

Dear Participant

Thank you for participating in this study, which investigates Emotional Intelligence and psychological well-being.

All the information collected is held in strictest confidence. Each participant is identified by a number to ensure confidentiality and I will ask you to sign a consent sheet. You are not required to provide your personal details, although for research purposes it would be helpful if you could identify yourself as male or female and provide your age.

Overall, the study utilises a number of experimental conditions and the purpose of this positive programme is to generate pre-and post-intervention data through the application of five psychometric tests. Should you be interested in the results I am happy to present the findings to you.

This part of the study utilises techniques from the field known as emotional optimism, which relates to M. Seligman, the author of Learned Optimism (1998) and Authentic Happiness (2003). The Positive Thought Exercise explores the power of positive and negative self-talk and allows you to maximise your positive feelings.

During the first session you will be required to complete five tests. I will then deliver a positive thinking exercise, which will allow you to explore your positive and negative self-talk. The session is timed for 60 minutes and will close with a reminder of the second session.

Sessions two – five are timed for 30 minutes each and will comprise the delivery of positive thinking exercises. As during the first session, you may experience varying levels of feelings, positive and negative. The session will close with a reminder of the third session.

Session six is timed at 60 minutes and will comprise the delivery of an exercise that supports positive change immediately followed by the completion of the five tests, which you completed during the first session. At the end of this session, I will offer some information about positivity and we will reflect upon the experience of the programme.

Are there any questions? I will now ask you to sign the consent form, find below the details for date, time and place. Thank you for taking part in this experiment.

Elke Nauheimer

Date of test session: Time of test session: Place of session:

5.21 Informed consent sheet

Psychological well-being informed consent sheet

Researcher: Elke Nauheimer
Supervisors: Dr Neil Morris, Dr Chris Fullwood, Dr Debra Cureton

- I understand that the ethical requirements as outlined by the University of Wolverhampton are strictly adhered to.

- I understand that I will be required to complete five tests. The tests measure levels of emotional intelligence, happiness, self-esteem and life satisfaction:

  - Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 200
  - The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)
  - The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)
  - Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)
  - The Satisfaction with Life Scale – SWLS (Diener, Emmons, Larsen, Griffin, 1985)

- I am aware that I will consent to participate in a positive thinking exercise which provides the opportunity to learn about negative and positive self-talk. I have examined the programme and know what I am signing up to

- I understand that the data collected is for research purposes only and that confidentiality is assured. All information is held in strictest confidence.

- I understand that each participant is identified be a number to ensure confidentiality; the data will be stored on the personal computer of the researcher until supervisors and examiner are satisfied that she has completed the PhD programme at which point data will be deleted and paper resources shredded. No other person has access to this computer.

- I am aware that I can withdraw from this study and that I will be invited to a dissemination of results session.

_____	_____	_____
Name of participant	Date	Signature

5.22 Instructions to participants

Session one

Part one

Introduction: Thank you again very much for participating. I would just like to check first of all that everybody has signed the consent sheet …*collect upon completion*

During this part of the session you are required to complete five tests, when I say 'you may start now' I would like you to complete the tests as swiftly as you can. Please don't think about your answers too long, first responses are probably best. The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions: 'You may start now' …*collect upon completion*

Part two

Introduction: I will now introduce you to the positive thinking programme, we will engage in a number of activities that will help you to identify some of your negative beliefs about yourself and turn them into positive beliefs. I have prepared the programme in a way that encourages you to participate; there will be opportunities to discuss issues in the group or just with one person. I have also prepared some hand-outs for you to take …*hand out activities*

'Please turn to the first exercise which focuses on positive and negative self-talk, are there any questions?' …*deliver activity 1*

The session closes with a reminder of the next session.

Session two - five

Introduction: Welcome, thank you for returning, again, I would like to assure you of confidentiality. Let me re-cap on last week's positive and negative self-talk activity. Today we will take a closer look at the internal critic, I would like you to assess your own levels and then identify one belief that you might like to change

… deliver activity 2

The session closes with a reminder of the next session.

Session six

Part one

Introduction: Welcome to the sixth and last session of this programme, again let me assure you about confidentiality, last week you identified one part of yourself that you may want to change, today I will introduce you to an exercise that helps with this change …deliver activities

Part two

Introduction: During this part of the session you are required to complete five tests, when I say 'you may start now' I would like you to complete the tests as swiftly as you can. Please don't think about your answers too long, first responses are probably best. The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions:

'You may start now' … *collect upon completion*

At the close of the session participants are thanked for taking part. Following the completion of the programme participants are invited to provide feedback informally.

5.23 Information sheet for participants

Welcome and outline of the Reading Group.

Dear Participant

Thank you for participating in this study, which investigates Emotional Intelligence and psychological well-being.

All the information collected is held in strictest confidence. Each participant is identified by a number to ensure confidentiality and I will ask you to sign a consent sheet. You are not required to provide your personal details, although for research purposes it would be helpful if you could identify yourself as male or female and provide your age.

Overall, the study utilises a number of experimental conditions and the purpose of this reading group programme is to generate pre-and post-intervention data through the application of five psychometric tests. Should you be interested in the results I am happy to present the findings to you.

You will be required to undertake a non-demanding reading task, which means reading for leisure and not for your studies. A variety of magazines will be made available to you and electronic devices are not permitted during the test sessions.

During the first session, you will be required to complete six tests. I will then instruct you to start your reading task. The session is timed for 60 minutes and will close with a reminder of the second session.

Session two - five are timed for 30 minutes and will comprise the reading task only.

The session will close with a reminder of the next session.

Session six is timed at 60 minutes and will comprise the reading task immediately followed by the completion of the five tests, which you completed during the first session. At the completion of this study, I will offer some further information about the study if you are interested.

Are there any questions? I will now ask you to sign the consent form, find below the details for date, time and place. Thank you for taking part in this experiment.

Elke Nauheimer

Date of test session: Time of test session: Place of session

5.24 Informed consent sheet

Reading Group informed consent sheet

Researcher: Elke Nauheimer
Supervisors: Dr Neil Morris, Dr Debra Cureton

- I understand that the ethical requirements as outlined by the University of Wolverhampton are strictly adhered to.

- I understand that I will be required to complete six tests. The tests measure levels of emotional intelligence, happiness, mood, personality and self-esteem:

  - Trait Emotional Intelligence Questionnaire-Short Form – TEIQue-SF (Petrides & Furnham, 2003

  - The Oxford Happiness Questionnaire – OHQ (Hills & Argyle, 2002)

  - The State Self-esteem Scale – SSES (Heatherton & Polivy, 1991)

  - Rosenberg Self-Esteem Scale – RSE (Rosenberg, 1965)

  - The Satisfaction with Life Scale – SWLS (Diener, Emmons, Larsen, Griffin, 1985)

- I am aware that I will consent to participate in a non-demanding reading task. I have examined the programme and know what I am signing up to.

- I understand that the data collected is for research purposes only and that confidentiality is assured. All information is held in strictest confidence.

- I understand that each participant is identified by a number to ensure confidentiality; the data will be stored on the personal computer of the researcher until supervisors and examiner are satisfied that she has completed the PhD programme at which point data will be deleted and paper resources shredded. No other person has access to this computer.

- I am aware that I can withdraw from this study.

_____ _____ _____

Name of participant Date Signature

5.25 Instructions to participants

Session one

Part one

Introduction: Thank you again very much for participating. I would just like to check first of all that everybody has signed the consent sheet …*collect upon completion*

During this part of the session, you are required to complete five tests, when I say 'you may start now' I would like you to complete the tests as swiftly as you can.

Please don't think about your answers too long, first responses are probably best. The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions: 'You may start now' …*collect upon completion*

Part two

Introduction: I will now instruct you to start your reading task, you will find a variety of magazines on the table, you may start now … *provide magazines*

The session closes with a reminder of the next session.

Session two - five

Introduction: Welcome, thank you for returning, again, I would like to assure you of confidentiality. I will now instruct you to start your reading task, you will find a variety of magazines on the table, you may start now … *provide magazines*

The session closes with a reminder of the next session.

Session six

Part one

Introduction: Welcome to the sixth and last session of this programme, again let me assure you of confidentiality. I will now instruct you to start your reading task, you will find a variety of magazines on the table, you may start now … *provide magazines*

Part two

Introduction: During this part of the session you are required to complete five tests, when I say 'you may start now' I would like you to complete the test booklets as swiftly as you can. Please don't think about your answers too long, first responses are probably best. The tests are not timed. Each of the five tests has its own instructions on the top of the page, please do not talk and remain seated until everybody has finished.

Instructions: 'You may start now' … *collect upon completion*

At the close of the session participants are thanked for taking part. Following the completion of the programme, participants are offered information of the study.

Appendix B: Study Data listed by study 1-4. .

Study 1: The definition of EI: an exploration of individuals' personal construction of EI

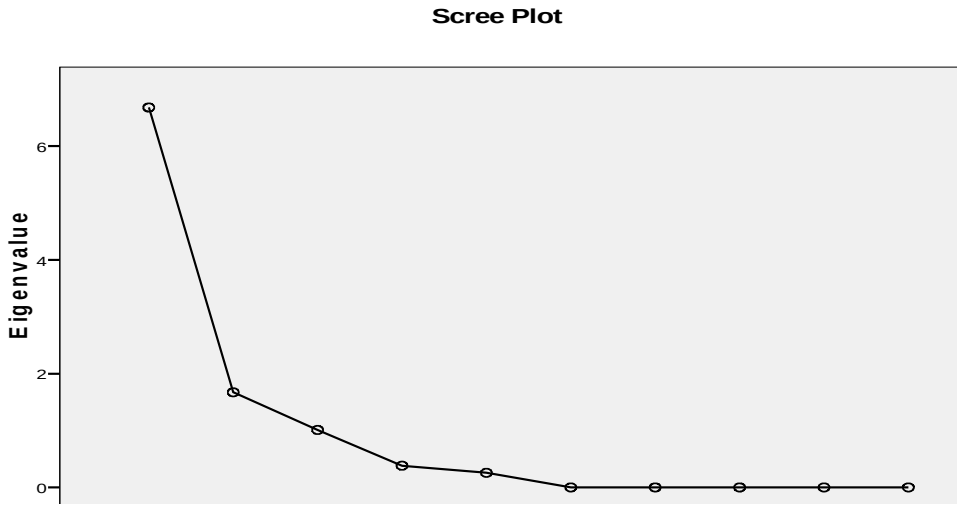
S1.1 Individual data sets 1 – 10

Data set 10.sav Data set 9.sav Data set 8.sav Data set 7.sav Data set 6.sav Data set 5.sav

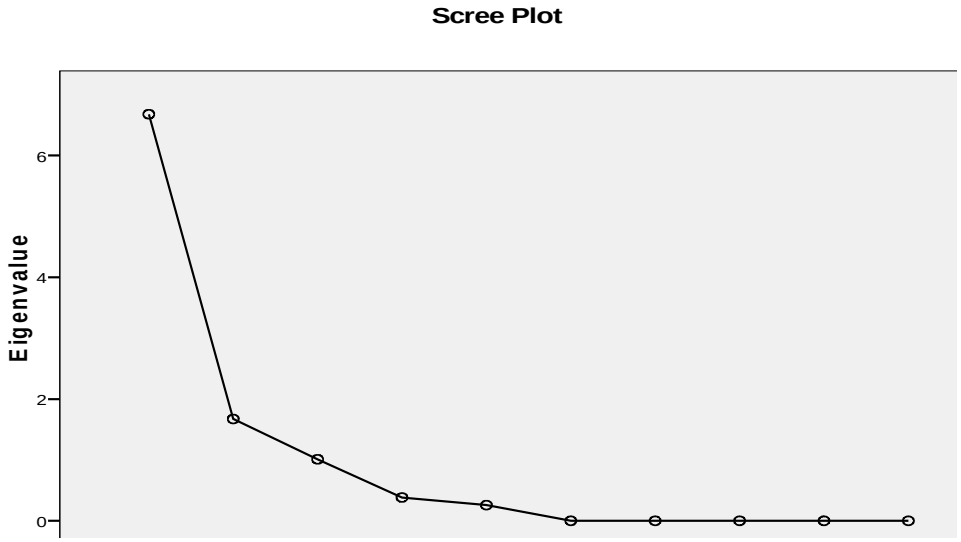
Data set 4.sav Data set 3.sav Data set 2.sav Data set 1.sav

S1.2 Scree plots figures (example of 3)

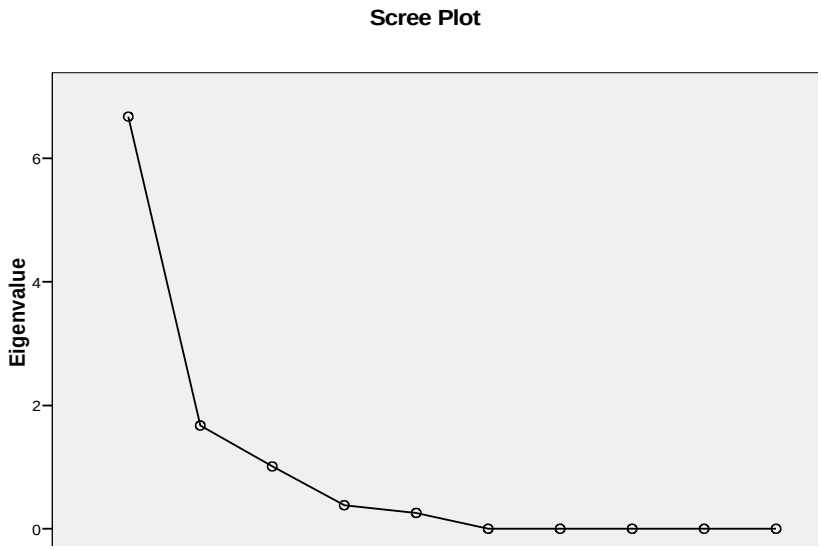
Plot 1



Plot 2



Plot 3



(For the initial table –Rotating Factor Loading see Appendix A, 3.5)

Study 2: The relationships between EI, Happiness, Self-esteem, Mood and Personality

S2.1 List of variables	Key
Trait Emotional Intelligence (EI)	teipre
Oxford Happiness Questionnaire (OHQ)	ohq
UWIST Energetic Arousal (UWIST EA)	uwistea
UWIST Tense Arousal (UWIST TA)	uwistta
UWIST Hedonic Tone (UWIST HT)	uwistht
State Self Esteem Scale Performance (SSES-P)	ctsp
State Self Esteem Scale Social (SSES-S)	ctss
State Self Esteem Scale Appearance (SSES-A)	ctsa
Ten Item Personality Inventory Extraversion (TIPI-EX)	tipiex
Ten Item Personality Inventory Agreeableness (TIPI-AG)	tipiag
Ten Item Personality Inventory Consciousness (TIPI-CO)	tipico
Ten Item Personality Inventory Emotional Stability (TIPI-ES)	tipiem
Ten Item Personality Inventory Open To Experience (TIPI-OE)	tipiot
Rosenberg Self-Esteem (RSE)	rse

S2.2 Data of 146 participants for study 2

Phase one Full data.sav

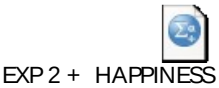
Study 3: Experimental study 1

S3.1 Data of 90 participants for study 3

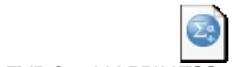
May Experiment 1 - 3 COMBINED DATA to work with.sav

Study 4: Experimental study 2

S4.1 Data for 2x12 participants for study 4



EXP 2 + HAPPINESS exp group.sav



EXP 2 + HAPPINESS control goup.sav

S4.2 Data collection from evaluation (summarised notes)

What you liked about the course

New ideas to really make me think about how I think and what I allow myself to think about.

To promote positive mindset, to accept the way things are, for example, people who are fixed in their ways, i.e. mother-in-law.

The course has made me re-evaluate how I see myself and others. It has made me more positive, i.e. helped me to deal with other people's negativity.

I enjoyed taking time to work on myself. I think the positive self-talk will help me in the future with challenges and my attitude.

Very interesting, helped me to analyse my strengths from my weaknesses. Positive things in life which I had not considered or thought as insignificant.

- Tutors were lovely and approachable
- Fairly interactive
- Searching and motivating
- A good overview of positive thinking
- Introduced to strategies to improve and cope with negative thinking

To be able to visit/re issues that were festering inside. To have this session to look forward to.

Meeting Elke

What you disliked about the course

Time of day-always had to rush off, would have liked deeper discussions.

There is nothing I disliked (it was delivered by knowledgeable staff who have a keen interest therefore there is nothing I disliked.

The course sessions were not long enough. I felt that the sessions could be at least an hour.

Confronting some of your demons is unpleasant but beneficial in the long run for a healthy mind.

Nothing, all been good.

- Too brief and sessions not long enough
- Interactive tasks were rushed as I would like to linger more to think deeper
- More practical exercises, to practice skills and techniques learned

Not a dislike but more a wish: to have had a more intensive experience both in terms of time and personal challenge

I didn’t feel the lessons were long enough

What you would like to do next: new course, continuation, exploration